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ORIGINAL ESSAYS.

ART. XV.—*Experiments with Snake (Cobra) Poison.* By
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(Continued from page 22.)

No. 156.

18th January 1870.—A large cobra bit a dog in the left fore foot and a native who came forward to cure snake-bite applied some antidote to the wounded animal repeatedly, notwithstanding which the dog was dead in 30 minutes.

No. 157.

The same day and at the same place a dog was wounded by a large cobra in the left hind leg and the same native gave it some drugs; he scarified the wound and applied the remedy to the part as well as to the scalp, which also he scarified prior to the application of the drug; notwithstanding which the dog was dead in 35 minutes.

No. 158.

On the 17th October a chicken was injected with a few minims of a solution of dried cobra poison, to test its effect; which it killed in 5 minutes. As soon as life was extinct, the chest was opened, the large blood-vessels at the root of the heart were divided and the blood caught in a wine glass.

No.. 159.

One drachm of this poisoned blood was injected into another chicken which it did not harm, as the chicken continued quite well.

No. 160.

On the 18th March 1871, I prepared the following solution—Dried cobra-poison gr. ss. Distilled water m. 60—solve. Of the above solution I injected 20 m. into a full grown male dog, at 3 P. M. the same day, and I had the animal well fed and taken care of—Scarcely any effect was evidenced. On the 13th May 10 minims were again injected at 4-30 P. M. On the 18th May 17 minims of the same solution were again injected at 1 P. M. The same day, 3 minims of the same solution were injected into a quail to test its integrity, which it killed in 20 minutes, but the dog continued well.

On the 4th July half a grain of the dried cobra poison dissolved in a drachm of water was injected into the same dog, at 11-22 A M.; towards evening the animal grew restless and at night it began to grow drowsy—head drooping, tongue at times lolling out, the fore limbs paralyzed. It continued much in this state and died the next morning, the 5th July, at 6 A. M.

No. 162.

At the same time and place to test the solution that was prepared and used for the dog, the tube that contained it was washed out and the washings injected into a chicken under the wing, at 11-24 A M. and the chicken was dead in two hours.

The object of Experiment 160 was to see if the system would become accustomed to the action of the poison, but in this case the intervals were irregular and too prolonged. This arose partly to my frequent absence from Madras, and in the last dose I miscalculated the strength of the dried poison. I hope to repeat this experiment more carefully on a future occasion.

No. 163.

On the 18th May I injected 3 minims of a solution of cobra poison originally prepared for the dog in experiment 160 into an avadavat, which it killed in 10 seconds—which proves that the dried poison even in solution did not suffer by being kept.

No. 164.

6th July 1871.—To a *Daboia Elegans*, Russel's viper, two drops of carbolic acid were administered at 8-45 A. M.,

There was some quivering motion for a time and in 20 minutes it was dead—weight of snake 8 ounces, length 37 inches.

No. 165.

To a common water snake *Tropidonotus schistosus,* 2 drops of carbolic acid were administered. There was some quivering about the body for a while, and it was dead in 10 minutes. Weight of snake 15 ounces, length 39 inches.

No. 166.

At the same date and place, to another *Daboia Elegans,* a solution of strychnine (1 grain to 10 minims) was poured down its jaws In 2 minutes the snake took on a regular serpentine form, became stiff, and the muscles were hard as a piece of board; and in 5 minutes more it was dead. Weight of snake 36 ounces, length 42½ inches. Was full of eggs with matured young in them.

No. 167.

To another *Tropidonotus schistosus* 3 minims of the same solution of strychnine was given at 9-10 A.M., and in 2 minutes it took on the serpentine form and was dead in 2 minutes more, when it was quite stiff and hard. Weight 2 ounces, length 21 inches.

No. 168.

One drachm of common bazar tobacco was infused in 2 ounces of boiling water and, when cool, about half an ounce of the infusion was poured down the throat of a cobra. In 2 minutes a shrinking of the body of the snake took place, it gradually grew quite stiff and in the course of 5 minutes more to all appearance it was dead. It was laid by, but when examined the next day it appeared quite well and as active as ever. Weight 20 ounces, length 50 inches.

No. 169.

About an ounce of the tobacco infusion was poured down the throat of another cobra, as well as some of the leaves from the infusion, and in 2½ minutes a shrinking, followed by stiffness as in the previous case, took place. On examination the next day life was quite extinct. It is necessary to remember that tobacco stupifies and produces all the appearance of death from which snakes frequently recover in the course of some hours. This has occurred repeatedly in my experience.

No. 170.

12th October 1871.—A sheep was bitten by a cobra and two minutes after some antidote was given to it by a native who was brought by G. Johnstone, Esq., Barrister-at-Law. The sheep urinated in about 3 minutes after. The scalp was scarified and medicine applied to it. Animal lame, pupils dilated, restless, gets up and lies down again, defæcated; medicine repeated several times. At 5-30 P. M. animal was stretched on its left side wagging its tail with outstretched head and neck. At 5-35 P. M. it was dead.

No. 171.

13th October.—The same native returned with another sheep the next day. He was not satisfied with the last experiment. The sheep was wounded at 11-55 A. M. in the skinfold of the abdomen by a large cobra, and notwithstanding the persistent applications of various remedies it died at 12-40 A.M.

No. 172.

17th October 1871.—A Mr. Howell produced a Mahomedan who was willing to test a reputed antidote in his possession with which he stated that he had cured several cases He brought another sheep which was wounded at 12-20 A.M. by a full sized cobra, and a white powder, which to me had all the appearence and taste of alum, was administered. Notwithstanding repeated doses, the sheep died in 50 minutes.

No. 173.

September 1871—A native doctor as he styled himself by name Teroovengada Charry came all the way from Salem to test a reputed antidote. He brought a sheep which was wounded by a cobra at 3-25 P.M. to which he administered some mixture he brought with him, which was given repeatedly; the sheep was scarified and had some stuff rubbed into it; the tips of the ears were cut off. Notwithstanding the animal was dead at 3-55 P.M.

ART. XVI.—*A Case of Wound of the Chest implicating the Lung, treated by* Assistant Apothecary G. W. EATE.

P. Nokiah, a ryot, aged about 32 years, a spare-made man, was admitted into the Police Hospital on the morning of the 22nd February 1872. He was sent by the police from a village 10 miles distant, and was said to have been stabbed between 11 and 12 o'clock at night.

On examination (7 hours after) I found the man considerably weakened from loss of blood and tightly bound round the chest with his cloth, which was saturated with blood. On removing the cloth, a penetrating wound of the chest was seen, about an inch in length, between the fifth and sixth ribs in a line with the axilla of right side. The air passed freely through during respiration with a blowing sound accompanied with a free discharge of bright arterial blood. There was considerable difficulty of breathing which was chiefly abdominal; a tickling cough and expectoration of frothy bloody mucus. Pulse small and weak. On auscultating the chest, at and around the seat of injury, a loud rough crepitation was distinctly audible.

There were other minor but superficial wounds of the chest.

Treatment.—The wound having been cleaned it was dressed with carbolic acid and oil 1 to 8 parts on lint and a chest bandage applied and the patient placed on the wounded side.

℞ Tinc. Opii. ♏ xx.
„ Digitalis ♏ xx.
Aquæ.............. ℥ iv.
ʒ i every 3rd hour.

Vespere.—Is much the same; complains of pain in the side; slight hæmorrhage still taking place; pulse small and weak; bowels have not acted. To have Ext. opii gr. ii in two pills, one to be taken at bed-time, and repeated during the night if necessary.

23*rd February.*—Took both the pills; slept pretty well during the night; complains of pain over wound; hæmorrhage entirely ceased. Respiration hurried and slightly oppressed; no cough; skin harsh and dry. Pulse small, soft; auscultation, moist crepitation faintly heard over anterior and posterior portion of right lung, percussion note dull.

Cont. carbolic acid and oil dressing.

℞ Magnesiæ Sulphatis ʒ vi.
Antimonii Tartrati gr. ¾.
Aquæ menthæ pip. ℥ vi.
℥ i every 2nd hour.

I was called to see him at 3 P.M. when he complained of pain along right lumbar region. Bowels have not acted, Fomentation to back. Omit mixt.

℞ Calomel. gr. viii.
Ext opii. grs. ii.
Mix and make 4 pills.
One pill every 2nd hour.

Vespere.—Pain relieved; respiration hurried; skin warm, dry; pulse small, weak.

Cont. pills.

24th February.—Passed a fair night, and states he feels better; respiration slightly hurried; skin warm; pulse 108, small, weak. Bowels have not acted; no discharge from wound, which appears to be closed; complains of slight pain over seat of wound. Auscultation; absence of respiration, murmur over anterior and posterior part of right lung, percussion note dull.

℞ Ol. Ricini ℥ i.
Aquæ menthæ pip. ℥ i.
Stat. sum.

Cont. carbolic acid and oil dressing.

Vespere.—Bowels have acted 3 times, feels easy; skin warm; pulse 102, small, soft.

Ext. Opii. gs. ii.
Horâ somni sum.

25th February.—Bowels moved once this morning; slept well during the night; slight pain over wound only, which is healing, feels easy. Respiration normal; pulse 90, moderately full, soft. Auscultation; respiratory murmur faintly audible with occasional moist crepitation to within a few inches of wound; percussion note clearer.

Cont. carbolic acid and oil dressing.

Vespere.—Respiration easy; skin cool; pulse 84, moderately full, soft; bowels moved 3 times.

Ext. Opii. gr. ii.
Horâ somni sum.

26th February.—Slept well; respiration easy; skin cool; pulse 84, of fair volume and strength; no pain complained of over wound, which is healing. Auscultation the same as yesterday.

Cont. carbolic acid and oil dressing.

Vespere.—Respiration easy, skin cool. Pulse 84, of fair volume and strength.

Ext. Opii. gr. i. h. s. s.

27th February.—Much the same as on last report.

Cont. carbolic acid and oil dressing.

28th February.—Slept well, complains of pain over seat of wound, and on taking a full inspiration, a little discharge of sanious pus issues from wound. Skin cool, pulse 88, of fair volume and strength.

Auscultation; respiratory murmur fairly audible over back and front of chest, to within about a couple of inches from seat of wound.

Cont. carbolic acid and oil dressing.
To have Ext. Opii. gr. i. h. s. s.

29th February.—Slept well, slight pain over seat of wound, respiration easy. A little discharge of sanious pus observed on removing the dressing; pulse 86, moderately full, soft. Auscultation the same as yesterday.

Cont. carbolic acid and oil dressing.

1st March.—Slept well, respiration easy, feels better, but still weak; very little discharge observed; pulse 82, moderately full, soft. Auscultation; respiratory murmur becoming clearer.

Cont. carbolic acid and oil dressing.

2nd March.—Slept well. Pulse 82, of fair volume and strength; complains of pain over posterior surface of chest, where moist crepitation can distinctly be heard; wound healing.

Fomentation to chest.
Cont. carbolic acid and oil dressing.

3rd March.—Slept well; respiration easy; pulse 82, moderately full, soft. No crepitation over posterior surface of chest. Respiratory murmur audible. Wound healing, a few exuberant granulations touched with argenti nitras.

Adhesive straps to wound.

4th March.—Improving.

Cont.

5th March.—Doing well, passed a fair night; wound nearly healed, pulse 70, of fair volume and strength. Dulness around wound clearing up, respiratory murmur faintly audible. Wound healing, a few exuberant granulations touched with argenti nitras.

Cont. strapping.

6th March.—Slept well, pulse 72, moderately full, soft. Wound nearly healed.

Cont. strapping.

7th March.—Wound healed; feels quite well, but weak. Pulse 72, moderately full, soft. Respiratory murmur distinctly audible over back, front and side of chest.

From this date he gradually began to improve, and as he still complained of being weak I kept him in Hospital, when

the tincture of the muriate of iron was given in small doses. He was discharged from Hospital on the 6th April 1872.

Remarks.

His deposition was taken by the Sub-Magistrate, on the day of admission, and when asked whether he thought he would die, he said no. He shewed a good deal of "pluck" throughout. I saw the knife produced at Court where my deposition was taken, and judging from the size of the wound I was of opinion it must have entered the cavity of the chest at least an inch and a quarter. The carbolic acid appears to have acted very well in this case in preventing suppuration by excluding the air. A great care was observed while the dressings were being renewed to have as little exposure as possible. The slight effusion that did take place appears to have become gradually absorbed, without even the aid of mercury or the iodide of potassium.

ART. XVII.—*Report of the Medical Committee appointed to investigate the causes of the Epidemic Fever which has prevailed in the Provinces of Coimbatore, Dindigul, Madura and Tinnevelly, during the years* 1809, 1810, *and* 1811.

(Concluded from page 198.*)*

SECTION SIXTH.

The mode of treating the disease, which has been found the most successful; with cautions regarding the best means of preventing relapses.

WHEN the epidemic fever first shews itself, which it frequently does, by a regular attack of an intermittent, we lose no time, on the body becoming cool, in clearing out the bowels by administering a brisk purge, which may either be twenty-six* grains of fresh powdered jalap and

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* It must here be observed that the doses of medicine mentioned in this report are for a full grown European; for the natives who are weaker in constitution, we usually order about three-fourths of the quantity.

a scruple of crystals of tartar well rubbed together; a full dose of the sulphate of Magnesia and Manna, or an ounce of the Oleum Ricini. Soon after the medicine* has ceased to operate, we prescribe the Cinchona, and there is to be observed this general rule respecting it, that the nearer the time of giving the last dose is brought to the expected period of the attack of the cold fit, the more likely will it be to accomplish the purpose intended. From six to eight drams of the fresh powdered bark, taken in substance, will commonly be sufficient to keep off a fit; but we have known many cases in which a dram or two more was required; and we think that when the whole can be given, within the last five or six hours, before the return of the shaking fit is looked for, it is more likely to prevent its recurrence than when it is taken in smaller doses and at longer intervals. Some stomachs, particularly in native habits, cannot bear the bark in plain powder; in such cases we have found it beneficial either to add a small portion of ginger to each dose, or to change the substance for the infusion or decoction, adding to it a certain quantity of the tincture and a little aromatic confection. The whole of the following taken in divided doses before the time that the fit is expected will often prove successful.

℞ Infus. Cinchonæ ℥ x.
Tincturæ ejusdem ʒ vi.—℥ i.
Confect. aromat. ℈ i. Misce.

The bark in substance, although in some habits it has an opening quality, in others proves quite the reverse. To obviate the last, which must even in fever cases be attended with bad consequences, we generally add a few grains of Rhubarb to each dose, or what answers just as well, and without irritating the stomach, we recommend the use of laxative injections. Any purging effect from the Cinchona may be easily prevented by adding four or five drops of laudanum to each dose. At the commencement of the hot fit benefit is often derived from thirty or forty drops of the medicine just mentioned, given in a small glass of water, in conjunction

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* Pills composed of Calomel and Rhubarb or of Calomel and compound Extract of Colocynth, may also be used for this purpose. Though when there appears to be considerable nervous irritability we are unwilling to give mercury. The strength of the purging pills may be (for a full grown person) five or six grains of Calomel and sixteen of Rhubarb, made into six pills or six grains of Calomel and twelve of the compound Extract of Colocynth made into as many.

with *half a dram or more of the* Alcohol Ammoniatum Aromaticum or with half an ounce of the Aqua Acetatis Ammoniæ. This appears not only to have the effect of shortening the fit but of sustaining the strength of the patient and enabling his stomach to bear the bark. When the perspiration begins to flow, the drink* ought to be taken tepid, but during the time that the skin is dry and the temperature of the body at its greatest height, cold water may not only be taken with safety, but we think with advantage.

The bark is not to be left off on the fever disappearing, but ought to be continued for eight or ten days longer to break as much as possible the habit of recurrence; for this purpose three, four, or more doses on the days the fit used to return, will be quite sufficient.

Much has been said with regard to the propriety of giving repeated purges in intermittent fevers, and there are some practitioners in this country who are in the habit of ordering them very freely. However necessary we deem it to be that the bowels should in every instance be kept perfectly open, and that over secretions of bile should be carefully worked off, we are altogether inclined to distrust the frequent use of strong remedies of this class, not only as we have known them, from our own experience, productive of certain mischief by occasioning irritation and debility, but as we are mindful of the lesson that was taught us early in life, by the writings of the judicious Hoffman; † who particularly recommends, that in agues the bowels should be kept open by the *gentlest* laxatives given with the bark or by clysters.

Slight enlargements and indurations of the spleen will sometimes be left after attacks even of the most regular intermittents and in habits otherwise sound; such are of little consequence and commonly disappear rapidly on the disease taking its final departure, without further precautions than attention to proper diet and the state of the bowels.

We have hitherto been supposing that medical aid has been sought (as it ever ought to be) at the very commencement of the disease, when a prompt recourse to the bark

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* Barley water, rice gruel, or what is very pleasant, an infusion of lemon grass (*Andropogon,*) are the most proper. For old people or those of cold and delicate constitutions, a good sustaining drink during the sweating stage may be made with one and a half pounds of an infusion of sage and one dram of the Aqua Carbonatis Ammoniæ.

† See Med. Rat. Syst. Part I. Cap. I.

after free evacuations have been procured, will often put an entire stop to the disorder; but unfortunately this is not always the case. The disease has perhaps been allowed to run its course* for days together, without any thing having been done to check it. On the contrary, improper food may have been taken, bile pent up, spirituous liquors drank, in fact every thing done which ought not to have been done; the consequence of which must be that abdominal congestion and obstruction of the greater viscera soon takes place and an obstinate and dangerous state of the disorder is thereby most certainly induced.

In such distressing circumstances there is often little immediate advantage to be expected from medicine, without at the same time having recourse to a change of climate (as has been strongly recommended in similar cases by Dr. John Hunter† in his valuable "Observations on the Diseases of the Army in India.") Then calomel‡ will in many cases be found of a greater service (particularly if the habit is still pretty strong and the bowels firm) on the mouth becoming affected with the medicine; some of the most unpleasant symptoms will, in all probability, disappear, when the bark, should it still be necessary, can be administered with more safety.

There is a description of medical men in this country who suppose that in hot climates bark given for intermittent fever has the effect of bringing on abdominal obstruction, if calomel is not at the same time daily administered; but to this opinion we cannot from our own experience subscribe. If full and proper evacuations are procured at the commencement of the disease, if over secretions of bile are purged off, and if great care is at all times taken to keep the bowels open, we see no good reason why this acrid mineral should be given, however necessary it may be to alter the habit. In more serious attacks it is an irritating and debilitating medicine, it is extremely apt to sicken the stomach and produce dyspepsia, and must therefore prove particularly objectionable at all times in delicate

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* This we have no doubt has been the chief cause of the great mortality occasioned by the epidemic fever, as thousands in remote situations where no medical aid was at hand must have had their constitution ruined before they could receive the smallest relief.

† See his work, pages 214, 215.

‡ About 4 or 5 grains, made into two pills, one of which is to be given at night and the other in the morning. Should these purge, half a grain of opium may be added to the whole, or more if necessary.

habits, and often in others too when we should as much as possible preserve the tone of the stomach, and prevent it from rejecting the bark. No: obstructions of this nature, we are rather inclined to think, arise from other causes, such as a neglect of timely and free evacuation by stool and, perhaps more *certainly* still, from repeated, long and severe cold stages having been allowed to take place before the malady was checked; and hence the almost constant affection of the spleen or liver which we see consequent of obstinate quartan agues and which was particularly instanced in the Native Hospital of Dindigul. In support of what we have here advanced we shall bring the authority of one of the most enlightened Physicians of the present age Dr. Jackson,* who in speaking of the Bark says "I was early aware of these objections and watched narrow- "ly that I might discover its real effects and I am now "warranted in saying that it has every right to be consider- "ed as a specific in ague and fever, while it is totally free "*from the imputation of occasioning dysentery, dropsy* "or *visceral obstructions; these complaints were always* "the most frequent when this remedy had been the most "sparingly employed."

We not unfrequently meet with very obstinate cases of intermittent fever, though apparently unaccompanied by any peculiar derangement of the abdominal viscera: in such cases, so inveterate is the habit of recurrence, that no quantity of Bark that can be taken seems to have any good effect; against these, many remedies have been used with various success.

We have occasionally tried with advantage the Vitriolic Ether (as recommended by Mr. Davidson in the 5th Volume of the "Medical *Facts and Observations") to the quantity of a dram and a half on the approach of the cold fit;* and we have also known benefit derived from a full dose of Laudanum given an hour before the expected attack, practice first taught us by Dr. Blare.†

In favor of the use of white Vitriol in agues we cannot say much. We learn from Mr. Hastie‡ that he gave it a fair trial in the Hospital at Dindigul in May last but thought,

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* See Dr. Jackson's Treatise on the Fever of Jamaica, pages 317—318. See also *what he says against the notion of bark producing obstruction at page 336*

† See his Observations on the Diseases of Seamen p 444 3rd Ed.

‡ See his letter No. 7 which accompanies this Report.

though in a few instances it * appeared to do good, that it was apt in others to produce much general uneasiness, headache, nausea and a most disagreeable sensation at the upper part of the œsophagus.

An emetic given a little before the cold fit was expected has occasionally kept it off.

Arsenic which for some years past has come much into vogue in England, has been used amongst the Hindoo Medical Practitioners, from time immemorial; and they have great confidence in its virtues in intermittent fever. We have been in the habit of occasionally prescribing it in solution as recommended by Dr. Darwin to the extent of eight drops three times in the day, but we do not much approve of the practice.

In recommending the use of the cold effusion during the hot fit, we have been more fortunate; and are of opinion that it is a powerful remedy by giving a check to the disease, and we have, in several instances, known daily immersion in the sea, prove the happy means of putting an entire stop to agues which had baffled every other exertion that had been made to conquer them.

A blister to the nape of the neck will often prevent the recurrence of the cold fit, and, in cases of great debility when the stomach rejected almost every thing, we have known the patient saved by having a warm plaster applied to his stomach and taking large doses of the tincture of Bark, each dose containing six or eight grains of ginger: or the Bark, in such cases, may be given in an infusion of ginger; or, what we have occasionally known prove very beneficial, powdered ginger may be taken in an infusion of the Creat root† or Gentian without any bark at all.

Notwithstanding all these remedies however, the disease will sometimes prove very obstinate‡ and if not checked run on to coma and death.

In such cases Calomel§ (or the blue pill), even when no obstruction has appeared, is often found to produce the best

* It was given in the quantity of about three grains every three hours, or one grain every hour, commonly about twelve hours before the attack was expected

† The Justicia Paniculata.

‡ Mr. Tait, Garrison Surgeon of Trichinopoly, whose professional talents are well known, has informed us that in obstinate cases of intermittent fever, when he had tried everything else he could think of without success, he had succeeded in checking the disease by giving at bed time a full dose of the Elixir Sacrum; or as it is now called the Tinctura Rhei et Aloes.

§ Continued till the mouth is a little affected: should it purge, a small quantity of opium may be added.

effects; and not so much by putting a certain stop to the recurrence of the attack, for in accomplishing this end it frequently fails,* but by inducing a new action and thereby bringing about so great a change in the habit that the Cinchona which previously had been given in vain will now be administered with a happy effect.

In the latter periods of intermittent fever, particularly if free evacuations have not been procured in the earlier period of the disorder, distressing and alarming bowel affections often take place, not attended with much straining but of an obstinate and debilitating nature. Gentle opiates, given in weak cretaceous mixtures made cordial by some aromatic, are sometimes of service; but it is but too often a fatal symptom particularly amongst the natives.

Œdematous swellings and ascites also not unfrequently supervene from pure debility; these, when no particular abdominal indurations appear, are best treated by repeated small doses† of tincture of squills given with a little ginger and tincture of bark, having recourse at the same time to frequent frictions with dry flannel and proper attention to the ingesta. But should the bowels be altogether firm, and there is any reason to think that the dropsy arises rather from visceral congestion than weakness, calomel may be given in conjunction with the powder of squills in small repeated doses or, what may be safer as less likely to bring on flux, the common mercurial pill with the addition of the dry squill powder. The following we have prescribed with advantage.

℞.	Pilulæ Hydrargyri	grs vi.
	Pulveris Scillæ siccat.	grs iss.

Misce ut faint pilulæ duæ. Sumatur una bis in die.

These may be continued for a longer or shorter period according to circumstances, adding, should it be necessary, a little opium and at the same time paying the strictest attention to proper diet and the use of dry friction.

When any person is seized with remittent or intermittent fever, who has previously suffered much from liver affections or dysentery, and who may still have diseased abdominal

* We know many instances of the fever continuing to recur while the mouth was affected by *mercury*

† R.	Tincturæ scillæ..............	gtt x.
	Do. cinchonæ	ʒ ii.
	Pulveris Zingib...	grs viii.
	Aquæ fontan...............	℥ iss.

Misce ut fiat mistura ter in dies sumenda.

viscera, a* most complex and dangerous morbid condition may be expected, requiring the nicest treatment; as each succeeding attack but too surely aggravates the old derangement, and the uncertain state of the bowels is as certainly discouraging to any positive hopes we might entertain from the use of the bark. In such a predicament, indeed, this medicine is to be used with the greatest caution; and the infusion, with the addition of a little of the tincture, is to be preferred to the substance; but when there is much uneasiness or pain in the right side even these should be desisted from, a blister should without loss of time be applied to the part affected and mercury had recourse to; at such time however as the bowels are often much out of order, the following persevered in for a short time we think preferable to plain Calomel as an alterative.

℞. Pilul. Hydrag. gr. vi.
Calomel. grs. g i.
Pulv. Ipecac. gr. iii.

Misce ut fiant pilulæ tres; sumatur una ter in die.

To these a small quantity of opium may be added, should it be necessary; resuming the use of the Cinchona, if required, after the hepatic symptoms are removed; in other cases, if the attacks of fever continue to recur, we have even given it at the same time with the pills, especially if the liver complaint or flux was rather chronic than acute.

Sometimes in complaints of this nature that have remained obstinate we have known an issue in the side of great service, together with a judicious course of bitters and gentle tonics; we say judicious, because we are aware that mischief is often done by an indiscriminate use of the remedies.

A change* of air we have constantly found of so great advantage in promoting the recovery of all such as have been attacked with Remittent or Intermittent fever that we never fail to recommend it to those who have it in their power to try it.

It is almost needless to add here how much diet ought to be attended to in the cure of fever. All crude vegetables and austere fruits are to be cautiously avoided, as should food of a heavy nature or that is difficult of digestion. Light puddings, clear broths, with bread or rice are proper; on the well days

* Celsus had so high an opinion of the benefit to be derived from a change of air in many cases of sickness that he says, rather than not change it, it is better to go from an air acknowledged good to a bad climate. Vide Cels Lib II· Cap I.

a little tender animal food, with two or three glasses of wine, or brandy and water made weak, may be safely taken; gentle exercise is useful and some people, particularly such as are subject to hepatic affections, often derive much benefit from wearing flannel next the skin; which prevents any bad consequences from sudden chills and keeps up a nearly uniform temperature on the surface of the body. Above all things the state of the bowels is particularly to be attended to and excess of every kind carefully shunned.

When an Intermittent is preceded, which it often is, by a slight febrile attack, more or less continued, and usually of one or two days duration, we prescribe an emetic* if the state of the stomach admits of it. After its operation has ceased we evacuate the bowels by means of a smart purge, and for this purpose nothing answers better than a full dose of the compound powder of Jalap, salts and Manna, or Jalap and Calomel, giving on the evening of the same day a draught prepared with half an ounce of the Aqua Acetatis Ammoniæ, two drams of common Syrup and thirty drops of Laudanum, or one composed of one dram of Antimonial wine and as much of the Spiritus Etheris Nitrosi.

Should the patient still continue so feverish on the next morning as to prevent his using the bark in the way already recommended, he may take the following in doses of an ounce and a half every two hours.

℞. Mistur. Salin .... ℥ iss.
Tartar. antimon .... gr iss.

Or it may be made without the Emetic Tartar, adding instead of it half a dram of purified nitre.

When from the appearance of symptoms formerly described (in section 5th) it is evident that a fever of the remittent kind may be expected, the stomach is often in so irritable a state that it would be highly improper to give an Emetic. In such cases we order at once the following pills.

℞. Calomel................ grs vi.
Pulv. Jacob........... gr iij
Misce et divide in pilulas tres.

The whole of which may be taken in the course of twelve

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* This may either be of Tartar Emetic or Ipecacuanha, a scruple or fifteen grains of the latter will be sufficient, the first is best given in small divided doses.

R. Mistur Salin. ℥ i.
Tartar Antim. grs. iii misce.
Assumatar ℥ iss omni quadrante hora donec non excitatur vomitus vel alvus solvatur,

hours. These will produce copious evacuations and may also perhaps bring on a slight degree of diaphoresis, which ought to be encouraged by taking frequently a little tepid drink. On the second* day, when the paroxysm will in all probability be found every way more severe than on the first, no time is to be lost in having recourse to mercury, the remedy which at such times can best be relied on for producing a regular intermission; seven or eight grains of Calomel with three or four of Camphor† are to be well rubbed together and made into four pills, one of which is to be taken every three hours during the day, these will often soon have the desired effect by inducing a desirable change in the habit and so favorable a remission or intermission of fever that the bark can be given with safety.

Notwithstanding this mode of treatment however we have found that in some instances the epidemic fever in its remittent form has proved a very severe and dangerous disease. Where no positive advantage appears to be derived from the use of the pills just mentioned, we think it advisable no longer to delay the use of the Cinchona, even before a regular intermission has been obtained, as it is the surest means of sustaining the strength of the sufferer. The decoction or infusion, with a small portion of the fine powder in it and a little of the tincture, will then be the best form: giving from time to time what light nourishment ‡ can be taken.

In the more extreme stages of this malady blisters are often of great service by rousing to recollection and exciting the *vis vitæ,* the bowels are to be kept open by mild injections to save the stomach and grateful cordials are to be united with the bark.

Relapses of the Epidemic fever in all its forms and types have been extremely common and troublesome; these seem to be in a great measure occasioned by the habit of recurrence that has been acquired during the course of the disease; they are apt to happen too, on any particular change

* At this period of the disease we have in some instances been able to check its further progress, by means of the cold affusion, while in others it altogether failed in producing the desired effect.

† There appears to be something in the nature of Camphor which peculiarly fits it for being given in conjunction with Calomel; it soothes in some measure the acrimony of this mineral, tends to calm the nervous system and gives the fluids a tendency to the skin

‡ With regard to wine we must recommend that it be given with great caution in every instance, and if it appears to increase the febrile heat and excite delirium (which it often does) it is altogether to be abstained from.

of the weather or to be brought on by irregular living, repletion, fatigue, cold bathing in damp weather or improper exposure to the heat of the sun or dews of the night. Costiveness, pent-up bile and indigestion we have also known frequently to induce a return of the disorder, when it appeared to have taken its final departure.

With regard to the moon producing relapses of fever, we cannot speak with much confidence. This influence was first taken notice of in India by Dr. Lind* many years ago, and since his time more particularly by Dr. Balfour, who has written on the subject. The latter is of opinion " that " the three days which precede and the three which follow " the new or full moon are remarkable for the invasion and " relapses of fever ; that the days of the full moon and the " day of the change of the moon are the most remarkable of " all and further that the days which follow are in general " more remarkable than those which precede."†

It is singular that by Dr. Jackson's *own* observations in America it appeared that the four days preceding,‡ not following, the full moon were more particularly distinguished for febrile attacks: these differences impress us with doubts on this point, doubts still more strongly felt, from a knowledge of further opposite opinions which we shall here mention. The excellent Dr James Clark§, long a most accurate observer in the West Indies, says that he ascribed those periodical returns of intermittents rather to a certain habit contracted in the constitution than to any influence of the moon on the body ; on the other hand, as far as regards the more immediate object of this report, Mr. Hastic in a letter¶ addressed to the Superintending Surgeon of the southern division has these words. "About two days before the change of the moon took place, as last month at Dindigul, relapses were frequent amongst convalescents."

But then again, in a communication which the President of this Committee, received some years ago from Mr. Currie now surgeon to the Residency at Hydrabad, we learn, that by a correct account of attacks and relapses of fever in the Hospital of the 1st Regiment of Native Cavalry during a period of nearly two years in the Ceded Districts, Mr. Cur-

* See his " Diseases of Hot Climates "
† See Dr. Jackson's Treatise on the Fevers of Jamaica, page 95.
‡ See the same, page 98
§ See his treatise on the Yellow Fever of Dominica, page 96.
¶ See No. 7 a letter which accompanies this Report.

rie clearly ascertained that so far from a greater number of relapses or attacks happening at or near the full of the moon they were least common at these times.

To prevent relapses of fever we know nothing so likely to be of advantage as a change of air, particularly by a sea voyage. To effect the same happy purpose great attention to the state of the body is absolutely necessary: taking occasionally a little tincture of Bark, together with a small quantity of that of the Creat root will be of service: and nothing can more certainly be so than the carefully avoiding every kind of excess.

At an early period after our appointment we had occasion to regret that much mischief evidently arose from a deficiency of medical aid in many of the smaller villages and remote corners of the southern provinces, and then had the honor of calling to the attention* of the Medical Board certain short rules which we thought could easily be followed by the natives themselves, without the immediate presence of regular Vytians.

We were much flattered to find that what we then recommended was so much approved of by the Medical Board, and subsequently by the Honorable the Governor in Council, that the latter lost no time in ordering the most prompt obedience to our various prescriptions and cautions throughout the whole of the districts in which the fever at that time raged and we have now the most heartfelt satisfaction in saying that our advice was not bestowed in vain. The natives in different quarters have acknowledged the great benefit that has been derived from the medicines we brought to their notice and confess that they believe them to have saved many lives.

We shall conclude this section, by subjoining a list of a few of the many articles which are used in intermittent fevers by the Malabar medical practitioners; but first let us testify our great joy at now having it in our power to say that by every account we can obtain we learn that the epidemic fever has ceased from its work of destruction; and that the few unfortunates who still suffer are merely those who having escaped with life from the first violence of the disease, are now lingering under the visceral derangements which it was but too apt to leave behind.

1*st.*—*Vullay Pashanum* (white arsenic) of this they are

* By letters dated 29th of April and 12th of May 1811.

in the habit of giving about the fifteenth part of a grain twice daily.

2nd.—The bark of the *Soimedoo**. This is particularly used by the inhabitants of the northern Circars, we have found that when taken to the extent of five or six drams in the course of the day it produced vertigo and other nervous symptoms, without being by any means so valuable in other respects as the Cinchona.

3rd. The bark of the *Vaypoomarum.*† This is much used by the Tamool Physicians, it is very bitter and is a powerful tonic.

4th. The nut called in Bengal *Caat Caranja*, and by the Malabars *Cullachie kaie*, it is the produce of the *Cæsalpinea bonducella.*

5th. *Chookoo* (Ginger.)

6th. *Womo* (Siron ammi.)

7th. *Sittarettie* (Costus spicatus, Rotler).

8th. *Tsyragum* (Cuminum cyminum).

9th. The bark of the *Caroowelimputtay*, it is called *Babul* in Hindostani, and is obtained from the Acacia Arabica.

10th. And last, the *Corte de Pala* or Tellicherry bark which is much used on the Malabar Coast.

SECTION SEVENTH.

Observations respecting the measures that might be adopted to prevent as much as possible the recurrence of so great a mortality from a succession of irregular seasons.

To correct the state of the atmosphere, when it has become noxious from such causes as we have enumerated, it will be readily allowed, is not within the power of man; but it must at the same time be granted that this evil will be attended with infinitely worse consequences under certain circumstances than under others.

We have observed in a former Section of this report that in all low marshy situations the epidemic was found to rage with great violence; hence the propriety becomes self-evident of our now recommending that, wherever it can

* Swietenia Febrifuga (Roxb.)
† Melia Azadirachta.

be done with convenience in future, villages and hamlets should be built on sites that are high and dry. We have also seen that in places close to mountains, which are ill ventilated or covered with thick jungle, the disease was very prevalent; a circumstance which leads us to express our opinion that the greater the distance towns and dwellings of every description are from these high lands, the better chance will those have who inhabit them of escaping the fever.

It is a well established fact that during such calamitous periods as that which we now contemplate with sorrow, the lower* classes ever suffer most, the natural consequence no doubt of their not enjoying the comforts which the more affluent can command; a fact too corroborated on the present occasion by our having in every instance remarked that those individuals were the most healthy who were best lodged, fed and clothed; in the Coimbatore country where the greater part of the inhabitants sleep on cots and in bleak weather have cumblies to cover them, the epidemic fever was less destructive; as also in the more central tracts of the Tinnevelly district and particularly in those beautiful and thriving villages, on the banks of the Tambarapournie where an active and superior race of people seem to receive the just rewards of of their labour and industry. How much then ought it to be the study of every Government to meliorate as much as possible the condition of the inferior ranks. The ample advances of money that have been made to relieve the distress of the cultivators in these Provinces testify how well this is understood by the supreme authority at Madras and we shall here take the liberty of suggesting what we conceive ought further to be done to amend the condition of the native inhabitants.

1st.—To give them every encouragement to build their streets wide and regular.

2*nd*.—To recommend tiling in place of thatching the roofs of houses, to such as can afford it.

3*rd*.—To point out the benefit of sleeping on cottles (truckle-beds) instead of lying on the damp ground.

4*th*.—And lastly, to have strongly urged, to men of all castes, the advantages that are to be derived in moist and bleak weather from being covered with cumblies.

It has been remarked by a very accurate observer, Dr. W.

* See Malthus on Population. Vol 2nd page 59.

Fowle,* that intermittent fevers in the West Indies are ever the most common and dangerous in those islands which are the least cultivated. Dr. S. Farr† in his translation of the Epidemics of Hippocrates seems to have thought so highly of the influence of agriculture that he has introduced it as one of the means by which a distempered state of the air may be remedied or prevented: and Dr. A. Wilson‡ in his valuable observations or the influence of climate, has these words (in speaking of America) "The European inhabitants who were transplanted to that continent, seemed for a time to degenerate; but the face of the country being by degrees changed from woods and morasses to a clear surface and cultivated fields and consequently from an impregnated to a pure atmosphere, those appearances have subsided and the natural effects have begun to flow from these changes, which there was every reason to expect from its cultivation and climate; and the more quickly it is deprived of its woody covering the more rapid will its improvements be in every thing that hath distinguished the European nations in equal latitudes."

With such authorities then before us, we shall here venture to offer our opinion with some confidence. That nothing is more likely to prove advantageous to the climate of our Indian dominions, than the clearing away of jungle, the draining of useless swamps and an extensive cultivation of waste lands; and we are extremely happy to learn, that at this very time, those objects occupy the serious attention of the Governor in Council of Fort Saint George.

In a communication which we made to the Medical Board from Bhavanie, in the month of May we expressed a belief that many deaths had been occasioned by the ignorance of the Native Medical Practitioners, regarding the best method of treating the epidemic fever and we then recommended, with a view of obviating the mischief thence arising, that the Vyteans should attend for a time to the personal instructions of such Surgeons or Assistant Surgeons as might be stationed nearest to their respective villages: but we have since thought that a much more eligible method might be adopted to accomplish the same end by a concise and distinct account of the European method of treating fevers (and two or three of the most

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* See his Treatise on the different Fevers of the West Indies, page 1.

† See his Preliminary Discourse from pages 38 to 43.

‡ See his work, pages 275, 276

common diseases of these countries) being translated into Malabar, and the work distributed gratis amongst the Hindoo doctors.

In a former Section we mentioned our great joy at having had it in our power to say that the ravages of the epidemic have ceased: and perhaps we cannot better conclude our report, than by expressing an earnest hope, that what has been advanced by Dr. Short in his "History of air and seasons" as well as by Mr. Malthus* may on this occasion be realized viz. "That a severe and mortal epidemic is generally succeeded by uncommon healthiness."

(Signed) WHITLAW AINSLIE, M.D.,

Superintending Surgeon of the Southern Division and President of the Medical Committee.

(Signed) A. L. SMITH,

2nd Member.

(„) M. CHRISTY, M.D,

COURTALUM, 27*th August* 1811. *3rd Member.*

* See Malthus's Essay on Population Vol. 2nd page 63.

No. 1.

Report of Persons who died in the Northern and Southern Divisions of Coimbatore District.

Taluqs.	Died from January to July 1810, in Fuslie 1219.			Died from 1st August, 1810 to 30th April 1811.			Total.		
	No. of Males.	No. of Females.	Total.	No. of Males.	No. of Females.	Total	No. of Males	No. of Females	Total.
Coimbatore	931	823	1 754	974	830	1,804	1,905	1,653	3.558
Cheoor and Cooroomundoor	408	292	700	632	564	1,196	1,040	856	1,896
Perindorie	419	370	789	418	296	714	837	666	1,503
Erroad	332	265	597	138	126	264	470	391	861
Andoor...	434	354	788	608	559	1,167	1,042	913	1,955
Suttemungalum	655	496	1,151	776	640	1,416	1,431	1,136	2,567
Coligal...	569	412	981	430	301	731	999	713	1,712
Caroor	465	363	828	489	374	863	954	737	1,691
Darapooram	307	197	504	497	460	957	804	657	1,461
Pillanchie	896	697	1,593	699	586	1,285	1,595	1,283	2,878
Chuckragherry	351	224	575	375	310	685	726	534	1,260
Pulladum	302	201	503	353	253	606	655	454	1,109
	6,069	4,694	10,763	6,389	5,299	11,688	12,458	9,993	22,451

BHAVANY, 9th *July*, 1811.

E. E.

(Signed) W GARROW.

No. 2.

Statement of the Population in Fuslie 1219 with the Persons who died in the Coimbatore District.

Taluqs.	Population in Fuslie 1219 or 1809, 1810.			Died from January 1810 to 30th April 1811.		
	Male.	Female.	Total.	Male.	Female	Total.
Coimbatore	41,313	42,569	83 882	1,905	1,653	3,558
Cheoor and Cooroomandoor	25,155	25,258	50,413	140	856	1,896
Parindorie	26,986	26,207	53,193	837	666	1.503
Errcad	16,078	16,248	32,326	470	391	861
Andoor	22,285	22,021	44,306	1,042	913	1,955
Sattimungalum	24,537	25,789	50,326	1,431	1,136	2,567
Coligal	23,259	21,167	44,426	999	713	1,712
Caroor	27,536	26,479	54,015	957	737	1,691
Darapooram	29,950	29,097	59,047	804	657	1,461
Pillanchiè	20,417	21,021	41,438	1,595	1,283	2,878
Chuckragherry	22,182	22,296	44,478	726	534	1,260
Pulladum	19,241	19,515	38,756	655	454	1,109
	2,98,939	2,97,667	5,96,600	12,458	9,993	22,451

BHAVANY, 30th July, 1811. E.E. (Signed) W. GARROW.

No. 3.

Comparative Statement of Deaths in the Divisions of the Dindigul District for twelve common healthy months and for the last twelve months, that is from 1st *April* 1810 *to the* 31st *March* 1811.

Names of the Divisions.	Names of the Estates in each Division.	Number of Deaths in healthy year.	Number of Deaths since 1st Apr. 1810 to 31st Mar. 1811.
Toddycumboo...	Toddycumboo ...	78	584
	Vadasundoor ...	105	439
	Colatoor ...	153	659
	Tennumpillay ...	81	614
	Terriodoo ...	65	505
	Adianoat ...	122	1,159
	Goodum ...	249	361
	Marnoot ...	196	714
	Chittynaukenputty.	143	1,252
	Vadamadura ...	159	1,168
	Balakistnapooram...	120	1,075
	Attoor ...	72	607
		1,543	9,137
Iyempilly ...	Iyempilly ...	6	17
	Caliampoodoor ...	7	......
	Kaeycadavoo ...	10	15
	Keeranoor ...	12	14
	Vangarray ..	9	10
	Vellumputty ...	36	47
	Coothampoondy ...	11	67
	Perryacottar ...	28	183
	Veeroopatchee ...	38	430
	Palaney ...	11	35
		168	818
Thenkaray ...	Thenkaray ...	111	188
	Allynagram ...	63	254
	Andyputty ...	52	205
	Davadanaputty ...	69	233
	Gungoowarputty ...	10	513
	Malamungalum ...	34	340
		337	1,733
Wootampollam.	Wootampollam ...	77	695
	Chinnamanoor ...	133	152
	Cumbum ...	99	548
		309	1,395
	Buttalagoontah ...	167	1,130
	tal Dindigal Estates.	2,524	14,213

Comparative Statement of Deaths in the Zemindaries of the Dindigul District for twelve common healthy months, and for the last twelve months, that is from the 1st April 1810 *to the* 31*st March* 1811.

		Number of deaths in a healthy year.	Number of deaths since 1st April 1810 to 31st March 1811.
Minor Zemindaries ..	Guntamanaickoor.	199	504
	Coambay ...	46	211
	Ramgherry ...	71	1,601
		316	2,316
Sequestered Zemindaries.	Nellacottah ...	296	2,875
	Sundyhoor ...	42	297
	Comarawaddy ...	260	1,809
	Total Zemindaries.	598	4,981

Number of deaths in the Dindigul Pollams from the 1st of July 1810 *to* 31*st March* 1811.

NAMES OF THE POLLAMS.	Number of deaths from the 1st July 1810 to the 31st March 1811.
Cunnywoddy	4,738
Madoor	1,220
Tavasymaday	456
Ammaterray	688
Yamakalapooram	1,266
Ammyanaickenoor	1,946
Dodyencottah	165
Vadagarray	240
Bodgnaikenoor	742
Tevaurum	227
Yerrachikanaiknoor	15
Sookamputty	808
Pullyapanaiknoor	90
Total...	12,601

ABSTRACT.

	Number of deaths in a healthy year.	Number of deaths since 1st April 1810 to 31st May 1811.
Dindigul Estates ...	2,524	14,213
Do. Zemindaries ...	914	7,297
	3,438	21,510
Do. Pollams from 1st July 1810 to 31st March 1811 ...		12,601
Grand Total...	....	34,111

(Signed) ROUS PETER,
Acting Collector.

(A true Copy)
(Signed) WHITLAW AINSLEY,
Superintending Surgeon S. D. and President of the Medical Committee.

No. 4.

Statement showing the estimate of population and number of deaths in the healthy season and the actual number in the unhealthy season of one year 1810-11 *in the District of Madura.*

	In the healthy season for twelve months.			In the unhealthy season for twelve months up to May 1811.			Estimate of Population in the healthy season for fuslie 1212 or from 13th July 1802 to 12th July 1803.	REMARKS.
	No. of inhabitants possessing land.	No. of strange inhabitants.	Total.	No. of inhabitants possessing land.	No. of strange inhabitants.	Total.		
Mandakolum	26	588	614	321	4,751	5,072	...	About 7 or 8 Villages are situated near the Hills where deaths were more than in Villages distant from the Hills.
Sholavundan	34	384	418	232	2,955	3,187	...	About 5 or 6 Villages near the Hills do.
Teroomunglom	417	84	501	2,413	548	2,961	...	About 2 or 3 Do do do.
Auneyoor	315	...	315	1,893	...	1,893	...	About 7 or 8 Do do do.
Thoorumboor	241	...	241	936	285	1,221	...	About 3 or 4 Do do do.
Mellore	200	...	200	1,721	573	2,294	...	About 3 or 4 Do do do.
Nuttum	261	1,383	1,644	1,381	6,617	7,998	...	About 5 or 6 Do do do.
Total of Madura......	1,494	2,439	3,933	8,797	15,729	24,626	2,45,654	
Dindigul	...	...	.	...	...	...	2,95,654	
						Total...	5,41,308	

MADURA, July }

(A True Copy.)

(Signed) ROUS PETER, *Acting Collector.*
(Signed) WHITLAW AINSLIE, M. D.,
President of the Medical Committe.

No. 5.

Statement of deaths of people and cattle occasioned by the unusual state of the season, shewing at the same time the population and the heads of cattle as taken in Fuslie 1211, *in the Province of Tinnevelly, from the month of February to 30th June* 1811.

Names of the Districts.	Population as taken in Fuslie 1211.	Number of Deaths since February to 30th June 1811.	Heads of Cattle as taken in Fuslie 1211	Number of Cattle dead since February to 30th June 1811.	Centage of Deaths of People it bears to the Population.	Centage of deaths of Cattle it bears to the whole.	Number of large Tanks.	Situation of the Districts.	Marshy Lands.	Remarks.
Sharenmahadavy.......	36,745	1,564	14,919	2,396	4¼	16	...	West end of the District situated 10 miles from the Hills.	About 70 villages including hamlets.	Most suffered near the Hills, low grounds and marshy lands on the Sea Coast.
Nellambolum	80,881	5,646	22,366	2,021	4½	9	1	West end of do. do. 4 miles.	About 80 Do. do.	
Vedoogramum.........	19,698	806	7,338	1,738	4	23¾	...	50 miles from the Hills.	About 15 Do. do.	
Brummadashum..........	35,320	2,265	17,422	445	6½	2½	...	Most of the Villages on the borders of the Hills.	Most of the District.	
Tencaushie	34,084	4,147	12,257	3,000	12	25	2	Do. do. do.	Do. do. do.	
Streevelliputtoor	68 491	4,550	35,232	8,810	6⅓	25	2	One-fourth of the villages near the Hills	40 or 50 villages including hamlets.	
Shenkernacovil	29,661	1,040	20,515	4,566	3½	22¼	2	One-half of the Villages within 10 miles	About 7 or 8 Villages.	
Streevygoontom...	69,669	2,382	33,558	9,460	3½	28	5	60 miles from the Hills.	About 10 Villages.	
Calacaud..................	92,592	5,372	49,057	8,680	5¾	17½	5	One-fourth on the borders of the Hills and one-eighth on the sea-side.	About 10 Villages.	
Alwar Ternagery	36,089	970	10,247	1,967	2¼	19	4	60 miles from the Hills.	Most of the District.	
Punjamahal.	68,436	3,966	10,103	1,190	5¾	11½	1	Most situated on the sea-side.	Do. do,	
Total ..	5,71,669	30,708	2,33,034	44,273	5⅝	19	22			
Estimated Deaths in the 27 Pollams which have not been regularly collected	1,19,027	7,494	58,290	11,700	6¼	20	3		N. B.—Very few of the above Villages are on the marshy grounds and the rest surrounded by it.	
Grand Total .	6,90,696	38,202	2,91,324	55,973	5½	19¼	25			

Tinnevelly, 30th *June* 1811.

E.E.

(Signed) J. HEPBURN, *Collect.*

No. 6.

Q. 1. When and where did the disease first attract notice?

A. In the districts of Tencoshie and Streevelly Puttoor in the month of February last. These places are near the hills.

Q. 2. Was the disease in Tinnevelly at a later period than at Madura, Dindigul or Coimbatore?

A. The disease first broke out at Madura and Dindigul before it reached this. During the month of March, April and May of last year, more than usual sickness prevailed in the district of Tencoshie and in the adjacent Pollams of Chocumpetty and Shevegherry situated near the hills to the westward. At the expiration of those months however the disorder ceased.

Q. 3. Has there been any general or unusual sickness among cattle or other animals since this disease became alarming?

A. There is not any uncommon but an unusual degree of sickness among cattle, many of which, and an immense number of sheep, have recently perished; but the mortality is not ascribed to the influence of the epidemical disease, the wet weather being supposed to have caused it.

Q. 4. Are the members of a family generally attacked *at once* or only after one of them has been taken ill?

A. The disorder is thought to be infectious, as one person is said to be first seized with it, although from the protracted nature of the disease many members of one family are sick in a house at one time in different stages of it.

Q. 5. Has the disease been general over the Provinces to the southward or in particular places, and can its commencement be traced to returning pilgrims or other intercourse of the inhabitants?

A. It is general over the Province but more violent along the sea-coast and in the vicinity of the Hills; the centre part of the country is less sickly. The commencement of the disease is ascribed to three causes.

First.—To an unusual heavy fall of rain.

Second.—To the return of pilgrims from Pylney in the Dindigul District. A sickness of this nature is not unknown in this part of the country, when an unusual fall of rain takes place, as may be seen by the following extract from Orme's Hindustan Vol. 2nd, page 201 in March 1757, viz.,

"Whilst these affairs were adjusting, the southern mon-"soon setting in on the coast of Malabar broke over the "Western range of mountains with the utmost violence and "descending, with the cataracts it had formed, into the plain, "deluged the whole country to the Eastern sea. The storm, "rain, and inundation continued without intermission for "two days and two nights. The harvest, just ripe, was "swept away and with it the habitations of the cultiva-"tors; the rains continued several days after the winds "had abated; it required many days labour and sun-shine "to drain and dry the ground and more time to repair the "devastation which the agriculture of the country had "suffered; during which an epidemic sickness broke out "and carried off many of the distressed inhabitants by "sudden deaths, which the patients' simplicity and the su-"perstition of their character imputed to the visitation of "the goddess Letchmie, coming they knew not whence "from the north." Every syllable of the above quotation agrees with the present circumstances except the storm.

3rdly.—The disease is attributed to the exhalation and stench occasioned by the large bodies of stagnant waters on the sea coast.

This fever or ague is said to proceed from bile. The patient on the second day after being seized with the disorder experiences a kind of fit, and he dies on the third day. If the patient survives the fever for 9 days he is not considered in any danger and in this way the fever lasts either a fortnight, or a month; at first daily and afterwards every two days causing great weakness accompanied with itch and diarrhœa.

Three-fourths of the people who returned from Pylney have died, most of them on their way to Tinnevelly, and the rest continue to this day ill of the diarrhœa or rheumatism in their knees.

Q. 6. Has the disease been more fatal amongst the huts of the poor? or equally prevalent in the more comfortable houses of the people of caste?

A. It is much more fatal among the huts of the poor, than with those who reside in comfortable houses. The mortality has been great among Toddy people who live in Palmyra topes, and also among the weavers. The houses of both these descriptions of people being of the worst kind. The former live in huts of

Palmyra leaves, many of which were destroyed by the storm in December, and they left uncovered.

Q. 7. Has there been any change in the grain or food of the country, by reason of diseased growth from the unusual fall of rain or any other cause that can be traced?

A. No it is entirely owing to the causes explained in answer to the Query No. 5.

(A true copy)

(Signed) W. AINSLEY, M.D.,
President of the Committee.

No. 7

To

THE SUPERINTENDING SURGEON
Southern Division.

SIR,—I have the honor of transmitting my Returns for last month, by which you will perceive that the number of our sick is greatly increased; most of those who escaped the fever at Dindigul have been taken ill since their return: and I am sorry to add that the sick whom I brought along with me have hitherto derived but little permanent benefit from their removal to a healthier climate. During the march, and for a considerable time after our arrival here, there was an evident amendment in the state of the sick; and an air of cheerfulness was diffused throughout the Hospital in which I most cordially participated and was led to indulge hopes that unfortunately haye not been realized. For about two days before the change of the moon, as took place last month at Dindigul, relapses were frequent among the convalescents and those affected with the disease at the time suffered an exacerbation of every symptom. Though I had used the precaution of opening the bowels and throwing in a large quantity of Bark before this period, yet some cases proceeded rapidly and irresistibly to a fatal termination.

It is unfortunate that we cannot regulate the diet of Natives nor do their habits permit very rigid confinement. I have been able to trace the origin of some dangerous and even fatal cases of flux to their eating cucumbers and other

vegetables, in which notwithstanding every caution they seem to have a strong propensity to indulge.

I have employed the mineral acids as you directed with good effect; and have found camphor a valuable addition to the calomel; James's powder combined with calomel is resorted to when the object is to reduce the disease to a regular form by procuring a distinct remission.

I have tried the sulphate of zinc in some intermittents; but with no great success. In a few cases, it appeared to be useful; in others, though it checked the regular paroxysm, it was evidently hurtful by causing much general uneasiness, accompained with headache, nausea and slight but constant heat of skin; such patients complained also of a most disagreeable sensation about the upper part of the œsophagus, arising, as it were, from an inverted action of that organ. This medicine might perhaps be employed with advantage in changing the type of an obstinate quartan.

In addition to the above remarks I shall only add that I endeavour occasionally to interrupt the morbid action by the exhibition of an emetic or a full dose of Laudanum before the accession of the cold fit: and have tried, for the same purpose, what I have heard recommended, equal parts of the tinctures of rhubarb and and senna which seem to have more effect than can be easily accounted for. Upon the whole, I cannot look back with much satisfaction to the result of my most anxious endeavours, and am sorry to say that my confidence in the effects of medicine, in certain circumstances of disease, is rather lessened than increased by the little experience which I have had.

I have the honor to be,

Sir,

Your obedient and humble servant,

(Signed) J. HASTIC,

Assistant Surgeon,

2nd Batt 25th Regt.

TRICHINOPOLY, *1st July* 1811.

No. 8.

Q. 1. When and where did the disease first attract notice?

A. Generally from the Southern Division in the Chuckragerry, Arvacourchy, Pollauchy and Darapooram Taluqs.

Q. 2. Has its progress been in the direction of any prevalent wind?

A. Its direction has been north—the prevalent wind is the western.

Q. 3. And if so was the country wet at the commencement, or did the winds blow from countries where heavy or partial rains had fallen?

A. The rains fell in the country itself in unusual quantities in last February at an untimely season. The natives consider that the waters are in a great degree poisoned by the addition of the numerous deleterious plants &c. which are washed into their streams or springs; the plants having at the time the most active effects, whereas according to the regular course of the season they are from their tender state less noxious.

Q. 4. Has there been any general or unusual disease among cattle or other animals since this disease became alarming?

A. None.

Q. 5. Are the members of a family generally attacked at once or only after one of them has been taken ill?

A. Symptoms have mostly attacked one person first.

Q. 6. Are there marks of putrescency in the disease?

A. None apparently.

Q. 7. What is its general period of termination when fatal?

A. Nothing certain has been ascertained upon the point; 5, 6 and 10 days or a lingering intermittent of weeks have been common.

Q. 8. Are the bowels affected, and whether at the commencement or termination of the disease; and is the diarrhœa or flux severe, and whether attended with discharges of blood?

A. A diarrhœa generally supervenes when the disease is fatal.

Q. 9. Has the disease been general over the provinces to the southward or in particular places, and can its commencement be traced to returning pilgrims or other intercourse of inhabitants?

A. It may be said to have attacked Coimbatore generally though not at the same time; it seems to have spread more by the atmosphere than by intercourse with pilgrims &c.

Q. 10. Has the disease been most partial among the huts of the poor, or equally prevalent in the more comfortable houses of the caste people?

A. All descriptions have felt its effects.

Q. 11. Are the European inhabitants attacked with the same disease?

A. Intermittents have appeared among the European residents.

Q. 12. Has there been any change in the grain or food of the country, by reason of diseased growth from the unusual fall of rain, or any other cause of this nature that can be traced.

A. None.

BHAVANY, *9th July* 1811.

(Signed) W. GARROW.

MEDICAL EDUCATION OF WOMEN.

WE have seen it laid down as an axiom that the noblest principle of life is change. All things change. The stedfast mountain crumbles down and its particles of soil are carried away by the hillside torrent to refresh and fertilize the plains below. Man changes from the child to the adult; from manhood to old age; from the mortal to the immortal. Kingdoms, dynasties and forms of social life change and alter their condition. To remain without change is impossible; changes constantly occur even under our own observation. Old things are passing away—nay in many instances they have passed away. We do not now find the home-industries described to us by our elder relatives. The progress of arts and manufactures has rendered unnecessary the home arts of spinning, baking and brewing. All these things are better done on the principle of division of labour, by organized agency specially trained for the purpose, each in its appropriate manufactory, in place of the individual efforts of the women of the family. No one would now don a homespun coat, or wear a knitted sock, when he can obtain a superior article at a less cost. Even were this not the truth, it is a fact that our girls are no longer educated with a view to the same after-life as was lived by their grandmothers. Some sixty or eighty years ago a woman was amply educated for an ordinary position in life, could she read her prayer-book and write a letter. No doubt, in many ways, woman was then, as she has ever been, a "help meet" for man; but how many a man must have regretted that the very one, whose

affection and respect would best fit her in every way to be his *alter ego*, was utterly unacquainted with even the elementary principles of the art, profession or trade by which he made the daily bread of the household! Man has an intellectual, as well as a physical and a moral nature. He needs sympathy with each part of his character and vocation to make his life substantially happy; and it certainly cannot conduce to his happiness to find his partner utterly unable to appreciate his labours, to exult in his successes or to sympathize, with true womanly tenderness, in his failings, Hence arose a desire among men that their daughters should be better educated. The old ideas passed away, and in a short space of time the girl's curriculum was well nigh as arduous as the boy's course of study, while it was a good deal more varied. Our daughters were taught to know and appreciate their own language, to read the history of their own and other lands, to converse in French and other modern languages and to cultivate the accomplishments which serve as the recreation of life. Recently, during the past ten years or so, lectures have been given at all first-class schools on the elements of geology, botany, chemistry and other physical sciences. The seed thus sown fared like other seed; in some "it yielded an hundredfold", springing up with such vigour as to beautify and adorn all the girl's future life. Henceforth, she had ample resources within herself: no place could be dull; no time hang heavy on her hands: the stones, the flowers, the silent stars, all suggested thoughts which were companions in any solitude or leisure hour. The thirst for knowledge once awakened is insatiable; and where the seed takes root thus kindly, the woman is a better, because a more intelligent, member of society, a fitter wife to her husband, a more capable mother and guide to her children. In other cases

of course, we shall find that the good effects of the impression once received remain all but passive in the mind, and yet the woman is fitted to sympathize with her husband, even although she may not have the power actually to aid him. Thus something has been gained. The power, though passive, is still real; and it is clearly an improvement on bygone days.

The progress of manufactures and the changes in social economy have buried with the past the spinning, knitting and sewing that filled up the leisure hours of our grandmothers and that made their lives happy aud useful in their day and generation. Our girls are no longer fitted for this work; nor is there any scope for such ability did the knowledge exist. The result is in some cases very sad. Our daughters are in too many instances aimless, idle and unhappy. They have no proper or beneficial occupations; and the time which is so valuable, the young fresh hours of life, when every faculty is well strung, the imagination most vivid and the physical constitution at its best, are frittered away in an objectless existence, or in the pursuit of so-called pleasure. This is not the case with our sons. Their school career, their college course and the business of actual life demand their best energies. They become useful, earnest, and self-reliant; while the very girls who are to be the companions, the wives, and the mothers of the future, have no other device to wile away their precious time, but the perusal of empty novels, or the absurd imitation of birds, beasts, and flowers, called "Fancy Work;" or perhaps they are driven to effervescent fits of pseudo-piety, the only alternatives to which are reckless flirtation and the slow poisoning process of uncontrollable ennui. There must be something essentially wrong in such a state of things. Why should all other labour have a definite end, all other seed-time an abundant harvest, and only the

long years and hard earned money spent on a girl's education have no fruition? These considerations, even were there no others, should lead the present generation to seek some useful and honourable career for its daughters as well as for its sons. In some cases, perhaps in many, there is an absolute necessity for the girls of a family to aid in the common effort to earn the household bread. The daughters of our English mechanics, labourers and small farmers, know well that they must turn out into the world and do their best to maintain themselves in decency and comfort. They have no false shame in using to the best of their ability and knowledge the heads and hands that nature has given them. They are, as a general rule, diligent in their calling and faithful in the exercise of the little committed to them by the Great Master. It is when we come to a step higher in the social scale that we meet with sad instances of the want of an acknowledged career for the girls and women of the day. Perhaps one girl, braver or better endowed by nature than the rest, tries a situation as governess, but notwithstanding all its drawback, the profession of governess is much overstocked in England; and there is no room for it in India. To take the lowest view of it, in the language of the old Jew, it does not pay. For many years however no other opening could be thought of at home; and thousands of ladies, well-born, well-bred and well-educated, were sacrificed in this profitless manner. We are aware that these remarks are more applicable to the circumstances of England than to those of India, but the principles of education and its good or ill results are the same there as here. We are most thankful to find that there are now several openings at home to a useful and happy career for women, whose birth and education would render unbearable and irksome the

duties of domestic servants, shop-girls or needle-women. England, conservative and tenacious to the back-bone, hesitated long ere she followed the example set by foreign nations; but the real misery caused by want of means and wan tof employment has at last told its lesson; and we now find English women busy in printing-presses and book-binding rooms, directing the wondrous telegraph or copying hard-worded folios in lawyers' offices. Many doors of honest and hopeful toil are thrown open to them; and the women of England, to their credit and advantage, have proved themselves both willing and able to avail themselves of these several sources of industry and honest bread-winning.

There is another sphere of usefulness to which we would now specially call attention—one which, in its appeals to the best attributes of a woman's nature, far excels all others—one which has claimed the attention of women since the earliest historic ages, and of which one branch at least was under the direct protection and patronage of the ancient Queen of heaven, Juno Lucina! We refer to the most humane of all, the healing of the sick, the soothing of the anguished, the comforting of the distressed. The medical profession is one of the noblest that man or woman can be called on to exercise. It appeals to our three-fold nature, and every one who, even in the humblest of its grades, exercises this calling aright, should be better, more learned and holier, from the daily ministrations to suffering humanity. In the preliminary scientific examinations the mind of the embryo physician is strengthened, cultivated and trained to a degree far beyond the mere book-knowledge he may acquire. In the subsequent course of lectures delivered by the heads of his profession, he is directed how to apply this knowledge, and by clinical ex-

perience, by patient watching and accurate observation by the bedside of the sick, and in the diligent prosecution of *post-mortem* studies, he gains that insight into the construction of man and the workings of nature which truly fit him to be a high-priest of the healing art. "The eye only sees what it brings the power of seeing." From sharing in the labours, trials and honours of this profession, women have long been debarred—debarred no doubt as much by their own ignorance and want of system as by the objections raised against them by the members of the medical profession. All this is easily understood if we remember the class of women who professed to have any medical knowledge. They were for the most part aged women, to whom age had taught neither sobriety, honesty nor the power of governing their tongue. They were utterly uneducated and prejudiced to a fearful degree, women who eschewed cold water and fresh air and who, in the hour of emergency, were altogether unfitted to aid the medical man in the simplest of operations. No wonder that the highly educated and refined doctor shrunk from being associated with those wretched specimens of womanhood, devoid of knowledge, ordinary sense and common good-feeling. These women seldom set up, as the village barber did, to be "bone-setters," or "bleeders," or domestic surgeons; they confined themselves to midwifery and the nursing of the sick. How they were ever tolerated by medical men as their co-adjutors is a matter of marvel; but we must suppose that they were put up with simply because no fitter helpers were forthcoming. The case is altered, or rather is altering now: women of all ranks show themselves eager for medical tuition, from the uneducated woman whose highest ambition is to be a good nurse, to the highly educated and well-born women who swell the ranks of the Sisters of Charity, sincerely de-

sirous to render help in as intelligent and as perfect a manner as possible.

There have been many objections raised against the admission of women to a medical career—some of them no doubt of great weight and deserving of serious consideration: others again merely frivolous, and sprung from mistaken notions of propriety or from desire to let things be as they are. Some of the faculty are opposed to the medical training of women, on the ground that they must share the class-rooms of the male students and that it by no means beseems a woman's modesty and delicacy of feeling to acquire from a male teacher, and amid male fellow-students, any knowledge of anatomy, midwifery and other kindred subjects. This is an objection that comes home to every woman desiring tuition, to every father who would like his daughter trained to the most noble of professions. We hold, however, that this objection is founded upon a mistaken notion as to what is, and what is not, true delicacy of feeling. We would put our opinion forward with due respect for the opinions of others, but to our mind, the whole body is a monument to the greatness and wisdom of Him who made it; and no right-minded man or woman could make the highest manifestation of God's creative might the subject of unseemly jest, unholy thought or undesirable allusion. We think that the evil—if evil there be—exists only in the imagination of the morbid, not in the subject which demands the best efforts of the mind. Further, we do not see how, in a properly conducted class-room, under the supervision of a teacher who himself felt the solemnity and responsibility of his profession, the pupils could ever behave in any but a becoming manner. Another objection frequently urged is that women are deficient in nerve and strength; as to the latter, we believe that skill is more in request than strength in a doctor; and

for nerve or quiet, silent stedfastness of purpose, we think that women are, at least, as well endowed as men, if not more so. No doubt we shall find individual women, as well as individual men, who feel faint at the sight of a streaming wound or a repulsive sore. Perhaps more women than men might plead guilty to this charge ; but no one chooses a profession without some regard for his, or her, personal feelings ; and we may feel assured that a woman who willingly undergoes all the study and all the practical work demanded in hospitals may be trusted to have nerve enough for even an alarming crisis in after practice. Then as to moral courage, as to whether a woman can have the heart to resolve on some painful treatment, and to carry it out firmly, steadily and tenderly withal, not ceasing for the trying cries of her patient or the possible entreaties of those around her, we believe that there are many such gentle, yet firm-minded, women who will not shrink from duty merely on account of its disagreeableness. Again, few medical men, even those who bear the highest reputation, ever undertake an operation of extreme difficulty without the advice and co-operation of a brother professional ; and we cannot suppose that any medical man would refuse his counsel and assistance because the individual seeking it was a woman instead of a man. Another objection frequently urged is that the training and profession of a doctor are utterly incompatible with the duties and responsibilities of a wife and mother. We are quite willing to admit the force of this objection in many cases ; nor can we conceive a more undesirable and pitiable state of things than exists in the home where husband and children are neglected, while the wife and mother, forgetful of her duties and truest pleasures, is engrossed with other pursuits, studies and cares. We contend, however, that this is no valid objection against the ad-

mission of such women as desire it to a medical career. We know that all women do not marry, some perhaps never have the chance, and some by a peculiar idiosyncracy, have no inclination. Now there can be no possible objection to these women entering the medical profession and throwing into this channel all the energy and enthusiasm that will otherwise be frittered away in profitless pursuits, that can give no solid pleasure but which tend more than any other circumstances to make them those peculiar, crabbed and disappointed specimens of humanity called "old maids." Supposing, however, that a female medical student or a lady-doctor marries. Will she be a worse wife or a worse mother? Have her studies made her more or less competent for the general duties of life? We assume of course that she gives up all special prosecution of the profession as a matter of gain or constant occupation. We believe that she will make a better wife and be a better mother. The knowledge of the healing art will still remain, and husband, children and friends may be the gainers by her kind and gentle ministrations. The arguments in favour of giving women a medical education are many. A sick man longs for the gentle touch and friendly sympathy that none can bestow so well as a woman. Woman indeed is man's natural nurse; she is the first that soothes his infant ailments; she is the one who composes his limbs and closes his eyes for the last long sleep. A woman's hand is peculiarly adapted for some operations—those especially where a small soft hand is preferable, and less liable to entail injury, than one of larger size and rougher mould. In all circumstances knowledge is power; and in some cases, the mere tying of a handkerchief and tightening the impromptu ligature with a twig may suffice to stay inordinate hæmorrhage from a divided artery, when the patient must assuredly die were assistance

delayed many minutes. We do not mean that all women who study medicine should practise for gain : in the higher ranks, it were most undesirable that a woman should do so ; but no one is the worse for knowing what should be done in cases of emergency and knowing how to do it. No one will be more thankful than the doctor to have all things made ready to his hand. The last argument we shall adduce to-day is, that taught or untaught women will ever be employed especially by the poorer classes, in one most important branch—midwifery. It is only necessary to look back on the past annals of midwifery in England, and the constant mal-practices by native midwives in this country, to make us all agree, that so far as this branch at least is concerned, women must be scientifically and thoroughly taught. A series of articles published in *The Lancet* for April, May and June last, will show us something of the horrible barbarities common in England, so long as midwifery was practised by the so-called midwives. Here, in India, there is scarcely a medical man who could not confirm a well-known practitioner's statement to us—" they bring here women whom they have actually killed by their ignorance and cruelty and then expect us to deliver them in safety, though the womb is ruptured or other fatal injuries inflicted !" The subject is full of interest ; but we have written as much as space will permit. We shall therefore stop for the present, with the hope of continuing the subject in a future issue.

HONORARY REWARDS FOR MEDICAL SERVICES.

IT is right that the attention of the Medical Profession in India should, every now and again, be

called to the relations existing between the Government of India and its medical servants, in regard to the distribution of Honorary Rewards.

The time has long since gone by, when the officers of the Medical Department were refused the decoration of the Order of the Bath, and the war services of medical officers, both of the British and Indian Medical departments, have of late years been fairly enough acknowledged in this respect. But in regard to the more modern decoration of the Star of India, which is in no respect a military order, but one instituted for the special purpose of honoring good and efficient service or marked distinction in every department of the State, it seems to us that the services of officers of the Medical Department have hitherto been strangely lost sight of or neglected, in the distribution of the Companionship of the Order. So far as we know the only two medical officers of the Indian service who have hitherto been selected as Companion of the Star of India, are Dr. W. Mackenzie, late of the Madras Medical Department, and Dr. Joseph Fayrer of Bengal. Dr. Mackenzie's war services were varied and numerous, and had been already recognised by a Companionship of the Bath when the additional honor was conferred upon him. The bestowal of the honor on Dr. Fayrer would appear to have been due quite as much to his distinguished war services in Burmah and Lucknow, as to his established repute as a scientific and practical surgeon, and his acknowledged position as leading practitioner in the metropolis of India.

In neither of these two instances does it appear to us that the decoration of the Star of India has been conferred for other than purely military services, and we have no hesitation in declaring that the practical limitation of this honorary reward to those of the Medical Department who alone have had the opportunity of distinguishing themselves in

war service, is unjust and contrary to the tenor and spirit of the statutes of the Order, as established by Her Majesty Queen Victoria.

To show how unfairly the new Order is shared in by medical officers, we may be permitted to allude to the case of a gentleman of the Bengal Medical Department, of whom we know nothing more than the testimony already recorded of his public services by the Government of India. In a recent "Resolution" of the Government of India, it is declared that "in the districts of Kumaon and Gurhwal, until about twenty years ago, the ravages of small-pox were frightful"! "Not a year passed in which the Government did not hear of the populations of large villages being more than decimated." A thoroughly efficient system "of vaccination was, however, commenced "under Dr. F. Pearson, now Superintendent General "of Vaccination, North-west Provinces. The result "of the admirable measures adopted by that officer, "and pursued with the greatest judgment and per-"severance through a course of years, has been that "small-pox has almost ceased to exist in Gurhwal "and Kumaon. The prejudices against vaccination "have, for the most part, vanished and the people "are generally not only willing but eager to have "recourse to it."

Such is the unsolicited testimony of the Government of India to the services of Dr. Pearson—to services pursued under every discouragement through "a course of years," and although the results of his labours have been to free the hilly districts of the Sub-Himalaya from epidemic small-pox and to preserve to the State, as tax-payers and producers, thousands of valuable lives yearly, this eminently useful public servant has not up to the present time been deemed worthy of an honorary distinction like that of the Star of India. If Dr. Pearson had expended a like amount of patience

and perseverance in the perfection of a devilish instrument for the destruction of human life, and had succeeded in making his invention applicable to warfare, we doubt not but that he would have been made a G. C. B., and probably a Lord of "Kumaon or Gurhwal," in recognition of his labors.

Or had he confined his energies to smart newspaper writing, and to lampooning his official superiors in "green letter pamphlets," it might possibly have been deemed a matter of public policy to dub him a C. S. I., with the view of keeping him in good humour ; but being merely a successful worker in the great field of preventive medicine—a great preserver, and not a waster of human life—the great Government of India by its public acts tells him that he is unworthy of an honor that was expressly intended by the Queen for such as he, but which strangely enough has often come to be conferred on men, who by thought, word, or deed, have never conferred the smallest benefit on their immediate dependants, or the world at large.

Some of our daily contemporaries have been lately discussing why it is, that with so many advantages in the way of pay, promotion and pension, the Indian Medical Service should be so little attractive to the students of the schools at home. We think the answer is to be found in some degree in this unfair withholding of honorary rewards from medical men, which in other departments of the State are freely enough offered for special and distinctive service. Mere pay, promotion or position, in themselves, are not enough to attract ambitious spirits.

A medical man, under any circumstances, can only distinguish himself from his fellows, either by the zeal and knowledge he brings to those hygienic measures, which act favorably on the health of the masses of the population, or by his skill in the detection of, and successful treatment of disease. For long

and distinguished service in either of these two great divisions of the healing art, it is surely but reasonable that the medical officer, should be in no worse a position for the receipt of honorary awards, than the mere soldier, or civilian, or native chieftain, who do their duty creditably according to their respective lights.

The case of Dr. Pearson, we have specially alluded to, and we trust he will pardon us the liberty of the reference, under the circumstance of the public acknowledgment of his services by the Government of India ; but there are doubtless other Medical Officers in India, who by their past labours and contributions to professional lore, are equally deserving of official recognition, and in regard to these officers we think the Head of the Medical department in each Presidency should be called upon to submit to Government occasionally, the names of those of his subordinates, whom he considers deserving of honorary distinctions. No doubt it is essential that honors of this kind, to be valued, should not be too freely given away, but if the names of medical officers are never brought before the Government for awards of this nature, there must be something wrong in the system or method of distribution, and the sooner the wrong is remedied, the more satisfactory will it be, both for the Government, whose interests are involved in honoring unusual talent or ability, and the Medical Department generally.

CHOLERA PROSPECTS.

The southward movement of cholera which all through May, June, July and August has been steady and continuous appears at length to have received a temporary check. The official returns show

that cholera has already occupied a good part of the Bombay Presidency, Central India, the Deccan and the Northern Districts of our own Presidency, so far south as the Godavery river. In the Kistna District up to date the disease has been limited to a few villages in the hilly taluqs. In the town of Kurnool two fatal cases had occurred during September, both in strangers coming from infected tracts of the Nizam's country. In the old fort of Raichore in the Doab between the Kristna and Tomboodra rivers, the disease has been established, but Railway communication with this place has not apparently had the effect of hastening the southward movement of the epidemic. A great feast is at the present moment in progress at Tripaty, to be followed by another at Conjeeveram, and it is by no means improbable that these festivals may be attended by cholera outbreaks considering the number of pilgrims who flock to them from the north. On the whole however we are inclined to the view that the prospects of an immediate outbreak in Southern India are not very clear. That the epidemic will by and bye be renewed in the Deccan and our North Districts is pretty certain, and when this renewal takes place we must be prepared for an extension of the epidemic in a southward direction.

SANITARY REPORTS.

A local contemporary in a recent issue has characteristically insinuated that we are not impartial in our criticisms of the Bengal and Madras Sanitary Reports; that we systematically praise the latter and condemn the former, not on their respective merits, but according to their origin. We notice the impertinence, merely because it appears to be intended to convey an imputation that the supposed pheno-

menon is due to the connexion of the Sanitary Commissioner for Madras with this Journal. We simply state in reply that that connexion has long since ceased. As to our competence to criticise impartially professional papers we believe we are at least equal to any of our contemporary's contributors.

We have no hesitation in adding that Mr. Cornish's last Report which the *Madras Times* has shown itself incapable of appreciating and which we hope to notice at greater length in our next issue, is one of the most able and valuable Reports of its kind which have been published since Sanitary Commissioners were appointed.

MEDICAL MISCELLANY.

The Blood-crystals and their physiological importance.
By S. WATERMAN, M. D., New York.

The blood-corpuscle is the highest developed organized cell known. Its atomic weight and complex composition are the marvel of the analytical chemist. The discovery that these blood-corpuscles contain a crystallizable substance is of recent date. The first observations were made by Reichert, Kolliker, and Funke, and still later by Lehman, who gave to these crystals the name of "Blutcrystalle" (blood-crystals). This physiologist was, however, but partially aware of the great physical importance and function of this crystallizable albuminoid, for in his *Handbuch der physiologischen Chemie*, he says, "that owing to the entire absence of knowledge respesting the chemical constitution of this substance, we are unable to form any opinion regarding its genesis."

Even as recently as 1858 Rudolph Virchow did not assign to these crystals any special function. He noticed the fact that they behaved in certain respects like organic substances, inasmuch as they became larger through the action of certain agencies, and smaller through that of others, without any change of form. He was also aware that the form of crystallization was very different in different classes of animals, and he adds, "that hitherto it has not been possible to discover any satisfactory reason for their existence, or to obtain any insight into the nature of their substance. And yet he knew the fact that these crystals were affected by oxygen and carbonic acid precisely as the blood is; that they become bright red with oxygen, and dark or bluish red with carbonic acid. In common with the former erroneous views of writers upon this subject, the coloring pigment of the blood was described by him as hæmatine, yet Lehman had already demonstrated that the insoluble substance so rich in iron is not found as such in the blood, but that it is in reality a product of decomposition of the true pigment of the blood, now known as hæmato-crystalline, hæmoglobin, or cruorine.

The great practical importance which attaches itself to the solution of the inquiry regarding the nature and function of this substance and others, must be my apology for making it the subject of some general remarks.

The spectroscope, which may now be considered as having

fairly entered into the service of medicine, has thrown a flood of light upon this and kindred inquiries, and has revolutionized many theories formerly entertained regarding the mysterious processes within our economy; and the results already obtained cannot fail to exert a definite influence upon our conception and treatment of disease.

Recent researches, aided by spectroscopic observations, have demonstrated that the blood-crystals, the hæmato-crystalline, are actively at work in the economy to sustain the processes of respiration, oxidation, and oxygenation; that through their instrumentality alone the oxygen of the air is attracted and bound to the blood-corpuscles, which by the heart's action is carried into the intricate recesses of the capillaries; there they give up their oxygen to the oxidizable tissues, with which they form energetic combinations; that in return for its oxygen thus given up, the hæmato-crystalline as energetically combines with carbonic acid, the product of combustion, which acid it carries back to the heart and lungs for final elimination. It has been fully demonstrated by experiments, that so long as the hæmato-crystalline remains the same in quality as well as quantity, the supply of the oxygen to the economy is subject to relatively small oscillations; and with the increase and decrease of this substance, or with any change of its integrity, rises or falls the degree of vitality in an individual's life. That it is beyond any question the hæmato-crystalline, and not any other substance of the blood, which enters into and sustains the vital exchanges between oxygen and carbonic acid, has been fully proved by spectroscopic observation. Hæmato-crystalline in solution is able to absorb oxygen as well as carbonic acid with the greatest facility. It can exist like the blood itself in a double state of oxidation, corresponding to arterial and venous. It can be oxidized and deoxidized at pleasure; it presents the same absorption bands as the blood does, and in the exact part of the spectrum it enters into precisely the same combinations with other irrespirable gases; and all and every optic appearance which blood presents when acted upon by chemical agents, are also faithfully reproduced when the same agents act upon a solution of hæmato-crystalline.

As to the absolute quantity of hæmato-crystalline, experiments made show that in the total volume of the blood in man 9 to 12 per cent. is contained; in the moist corpuscles, freed from serum, it rises to 18 and 20 per cent.

In reference to the rapidity with which oxygen is absorbed by this hæmato-crystalline, we refer to Pflueger's highly instructive experiments upon dogs. He forced these animals to inhale pure nitrogen gas. In 30 seconds the highest point of dyspnœa was reached. At this point some blood was abstracted under great precaution, and tested for oxygen. It was found that its quantity of oxygen had been reduced to a minimum, being 1 to 2

per cent., whilst the blood abstracted from the same animal, immediately before it inhaled the nitrogen, contained 18·6 per cent. of oxygen. As soon as these animals were permitted to inhale again pure air, the dyspnœa disappeared, and they seemed to be as well as ever.

Preyer made the observation that one gramme of hæmato-crystalline had the capacity to bind 1·27 cubic centimetre of oxygen; and Hoppe Seyler determined that the blood of dogs contains, on an average, 13·79 per cent. of oxygen. Pflueger gives the amount of oxygen contained in the human arterial blood as 16·9 per cent. Blood-serum contains of this gas only 01·—02 per cent. of oxygen. The more compact the blood, the greater the amount of hæmato-crystalline, and so the reverse. In many animals, especially in those that hibernate, the quantity of hæmato-crystalline diminishes gradually during the winter's sleep; and we find, on examination, that their blood has lost much of its density.

According to the analysis of C. Schmidt and Hoppe Seyler the hæmato-crystalline from dogs has the following composition:—

C 53 64, H 7·11, N 16·19, S 0·66, Fe 0·43, O 21·02, $P_2.O_5$. 0·91, alkalies 0·04—100 00. These proportions differ in various animals and man, but not to a very great extent.

Hæmato-crystalline crystallizes in beautiful rhombohetric plates, at times also in prisms of a beautiful red color. They cannot be obtained free from the coloring pigment, owing to the extraordinary tenacity with which it clings to the hæmato-crystalline.

One of the most interesting properties of hæmato-crystalline is its capacity to combine with destructive energy with many irrespirable gases, whereby its own integrity is sacrificed, and its life-sustaining power is lost for ever.

These combinations are, unlike those into which it enters normally with oxygen and carbonic acid, transitory and easily effected; on the contrary, they are irrevocably permanent, and any further absorption of oxygen, when thus combined, becomes absolutely impossible. This fact is evidenced by various crystalline forms of peculiar consistency and durability. With carbonic oxide it forms carbonic oxide hæmato-crystalline; with prussic acid, cyanite of hæmato-crystalline, and so forth.

Hæmato-crystalline is the most indestructible substance known. No matter how long it has been mixed with fluids undergoing putrefaction, it retains its characteristic features, especially its optic relations, as evidenced by the spectrum test. I look upon this stability and indestructibility as the most important, nay, principal factor of animal life, and any pathological condition affecting this stability must also affect the stability of life itself.

All these interesting and demonstrable facts have been ascertained by means of the spectroscope. By its analytical power

we have become acquainted with the changes these blood-crystals undergo when acted upon by various chemical agencies, and thus obtained an insight into the processes of life which a decennium ago we had no hope of ever obtaining.

Some interesting points, however, still await explanation. Under the spectroscope the hæmato-crystalline of animals and birds and fishes produces like optic relations, yet we know they differ to some extent in their composition and their forms of crystallization. The spectroscope can throw no further light upon this inquiry, and we may suppose we have arrived at the limit of an investigation of a substance so subtle in its composition as to defy further recognition. Thus the blood of man and of many carnivorous animals crystallizes in prismatic and rhombic columns and plates. The blood of the guinea-pig, of the rat, and the mouse in beautiful tetraheters; the blood of the squirrel presents hexagonal plates; in fishes we have fine prismatic needles, and so on. They also differ in different animals in solubility and sinking capacity.—*Medical Record.*

George Thomas—A curious case.

Dr. S. B. Merkel, of Philadelphia, introduced to the section* George Thomas, a colored man who could play such queer tricks with his heart and his belly that Profs. Pancoast and Gross had found this case worthy of examination, and the latter had hinted that he was probably in league with the Devil. He was born in Brazil and raised in London; had spent some time in Germany and at Paris, where, as at London, he had attracted scientific attention; and he had now taken up his abode at Frederick City, Md. He claimed that he could stop his heart, "throw" it into different parts of the abdomen, and "roll" the latter about the navel. The last peculiarity had been discovered by his mother when he was six months old. He got his living by exhibiting himself, and seemed anxious for a while about his pay; but, satisfied at length that the hat would not be empty, he lifted the curtain and opened the show.

First he made the abdominal wall undulate by a peristaltoid movement of the recti from above downward, there being about one and a half, or possibly two and a half, waves visible at once. The motion became very rapid, and was kept up for a minute or more. (He said he could do it all day.) Then he reversed the action, sending the undulations from below upward; and thus he alternated several times. Next he "threw his heart" into the belly, and a swelling like a phantom tumor appeared above the crest of the right or the left ilium at will. Finally he "stopped his heart," until several observers said they could neither hear nor feel it.

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* American Medical Association. Section of Surgery and Anatomy.

The Special Committee on the case reported as follows :—

DR. MOORE, of Rochester,—We have made a very careful examination of this case, but have had no time to put our report in writing.

First, we directed our attention to the heart. We find the heart itself grossly large, and the main arteries also greatly distended. The impulse of the abdominal aorta is very readily and very strongly felt when the subject is lying upon the table. The arteries of the wrist are abnormally large.

When the boy undertakes to suspend the action of the heart, we find that action growing less and less and less, until it becomes imperceptible both to the ear and to the finger, showing certainly a very great diminution in its force.

With reference to the alleged transposition of the heart from point to point we observe these facts : When the attempt is made to "throw the heart," as he says, upon the left side of the abdomen, the right side is seen to become very much indented, and the left side to become a little extended. But we also note that there is a suspension of respiration, and a state of powerful tension of the whole of the muscular system. Synchronous with all this we find a very decided increase of the heart-sound over the tumor, while the ear of a second observer is kept upon the thorax, and the sound is still heard over the normal position of the heart. We observe similar phenomena, simply reversed, when he attempts to throw the heart upon the right side.

These are the facts. Our inferences from them are, perhaps of no more value than would be those of any one else.

It is possible that, by the drawing downward of the diaphragm, the pericardium may be so elongated and narrowed as actually to compress the heart from the sides. It may also be supposed that, besides this mechanical action, there is an element of will acting in some peculiar way upon the heart through the nervous system.

With regard to the act of "throwing the heart" into the abdomen, as is claimed, that claim is by no means admitted. We have stated to you the fact, however, that there is an increase of the sound over the tumor ; and this seems to us to be developed as a result of the extraordinary muscular tension. It is easy to understand, I think, that the compression of the abdomen, under this strain of its muscles, would have the effect of bringing the abdominal walls, the spleen, and the heart into very close relation with each other, and of increasing greatly the facility of transmitting sound. We are disposed to think this the true explanation, since the heart is still to be heard at its normal position at the same time that its sounds are so distinct below.

As to the peculiar action of "rolling the belly," it seems to me the result of prolonged training, commenced in early life. This has enormously developed the recti muscles, so that when relaxed they feel like a great mass of dough under the fingers, and has given them a power of vermicular motion precisely like that of a snake or an eel. Indeed, I am not sure but this case may throw a little light upon some speculations of the transcendental anatomists. One of these, as you know, is that the lineæ transversæ of the recti are the rudimentary homologues in man of the abdominal ribs of some lower animals—all we have left of them. Now these give an opportunity for each of the short muscles between them to act by itself; and by bringing them successively into action, the vermicular motion is produced.

One word more. There is no motion of the chest in breathing, or scarcely any. You tell the boy to take a long inspiration, and he immediately expands the abdomen into a great tumor, while the thorax remains perfectly quiet. This shows the wonderful action of his diaphragm—even more wonderful than the power of, and control over, the other muscles of the abdomen.

Dr. Horton asked whether the sound in the abdomen might not be due to the pulsations of the abdominal aorta.

Dr. Moore.—We thought of that, and it is possibly so.

Hydrate of Chloral in Traumatic Tetanus.

Dr. Joseph R. Beck, in the *St. Louis Medical Journal*, gives a summary of all the cases he has read of in which hydrate of chloral was used in traumatic tetanus. The following table shows the results:—

No.	Reported by	Mode of Treatment.	Whole No.	Died.	Recovered.
1	W. B. Cluness ...	Chloral alone ...	1		1
2	M. Verneuil ..	Chloral alone ...	1		1
3 } 4 }	MM. Dubreuil, Lavaux, and Onimus.	Chloral and continuous current.	2		2
5	Dr. Dufour ...	Chloral alone ...	1		1
6	M. Guyon ..	Chloral alone ...	1	1	
7	M. Le Fort ..	Chloral alone ...	1	1	
8	Mr. Tay ..	Chloral alone ..	1	1	
9	E. R. Denton ..	Chloral, belladonna, and potas. bromid...	1		1
10	Thomas G. Duncan..	Chloral and Calabar bean ...	1		1
11	Preston, Peter ...	Chloral and Calabar bean ...	1	1	
12	John W. Ogle ...	Chloral, belladonna and ice to spine ...	1		1
13	Mr. Croft ...	Chloral alone ...	1		1
14	Mr. Paget ...	Chloral alone ...	1	1	
15	J. Suydam Knox ...	Chloral alone ...	1		1
16 to 22	C. Macnamara ...	Chloral alone ...	7	6	1
23 } 24 }	M. Garnies ...	Chloral alone ...	2	2	
25 to 34	Dr. Widerhofer ...	Chloral alone ..	10	4	6
35	F. Auchenthaler ...	Chloral alone ...	1		1
36	My own case ...	Chloral alone ...	1		1
		Totals...	36	17	19

In the *Berliner Wochenschrift* in 1870 Dr. O. Liebreich stated that while different surgeons had made trial of the curative

value of the hydrate of chloral in cases of trismus, without any favourable result, he had in some cases, by the use of 3·5 grammes of the article, succeeded in causing an entire relaxation of the affected muscles. Dr. Liebreich considered that chloral does not act by removing the cause of tetanus, but simply by counteracting its effects, and that its use must, therefore, be persisted in so long as the muscular spasm continues to recur.

Dr. W. D. Yandell, the president of the American Medical Association, arrives at the following conclusions :—

1st.—That traumatic tetanus occurs in males in the proportion of four to one, and tends to recovery oftenest in females.

2nd.—That tetanus is most fatal in persons under ten years of age; that it is least fatal between ten and twenty.

3rd.—That traumatic tetanus usually supervenes between four and nine days after the injury, and these cases represent the largest mortality.

4th.—Recoveries from traumatic tetanus have been usually in cases in which the disease occurs subsequent to nine days after the injury.

5th.—When the symptoms last fourteen days recovery is the rule and death the exception, *apparently independent of the treatment.*

6th.—Of all the forms of tetanus, that appearing in the puerperal state is the most fatal.

7th.—That chloroform, up to this time has yielded the largest percentage of cures in acute tetanus.

8th.—The true test of a remedy for tetanus is its influence on the history of the disease. (*a.*) Does it cure cases in which the disease has set in previous to the ninth day? (*b.*) Does it fail in cases whose duration exceeds fourteen days?

9th.—That no agent tried by these tests has yet established its claims as a true remedy for tetanus.—*Medical Press & Circular.*

Syphilis in the Inferior Animals. BY E. ANDREWS, M.D., (Professor of Principles and Practice of Surgery in Chicago Medical College.)

The distinguished advocate of syphilisation in Paris, Dr. Auzias Turenne, proved, as he supposed, by inoculations, that while the inferior animals could have soft chancre, they were incapable of constitutional syphilis. This conclusion, though resting solely on the narrow basis of one man's experiments, appears to be accepted by all the eminent syphilographers of Europe; and being the prevailing doctrine, I have myself often quoted it as true.

On consulting a number of leading works on Veterinary Surgery, I find no allusion to syphilis except in Gamgee, who doubtfully speaks of certain primary sores, but of no secondary in

inferior animals. A veterinary surgeon of this city, however, informs me that he has met three cases of what he considers well marked constitutional syphilis in breeding animals.

The first case was that of a bull in England. The first symptom was a chancre on the penis, accompanied with inflammation and swelling, and followed by secondary eruptions on the skin.

Case second was on a celebrated imported bull. The first symptom was a discharge from the prepuce, with swelling and inflammation. This was followed, first by moist ulcers in the mouth, and later by eruptions with large scabs on the skin.

Case third was that of a boar which was supposed to have a primary sore, which was followed by eruptions on the skin. The veterinary surgeon above mentioned says that gonorrhœa is very common in bulls.

These three cases are not enough to bring us to a decisive result, but they show that the subject needs a reinvestigation. Domestic animals are certainly less subject to syphilis than men; but they may, after all, have it in a mild and modified form. If experiments should prove the latter hypothesis, the question would immediately arise whether this modified form could be used like vaccinia, as a prophylactic against syphilis proper. Who will make the experiment?—*Ib.*

Death from pyæmia after the divulsion of stricture.

Dr. Keyes exhibited a specimen* of death from pyæmia after the divulsion of stricture. A Scotchman, aged forty, was last month sent to hospital from the workhouse. He was a stout, heavily built man, and complained of stricture with cystitis. A number 11 bougie (French scale) was readily passed and, as the patient desired to be relieved of his trouble, a Thompson's divulsor was introduced, and screwed up to 30. The patient did not complain of any pain, until a No. 25 sound was passed, when he also had a chill. A subcutaneous injection of morphia was made into one of his arms. Shortly after this he passed into a condition of fever, which lasted until death. The chill lasted five minutes. His pulse went up very rapidly, so that the next day it was 130—140. His skin was hot and dry from one end of the disease to the other. He drifted into a condition of delirium on the third day and his skin became yellow twenty hours before he died.

It was discovered that there was a little tenderness beneath the scrotum and on the third day a lump about the size of a marble was discovered. The patient died on the ninth day.

At the autopsy it was discovered that there was extravasation of urine; that there had formed pus in the meshes of the

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* Before the New York Pathological Society.

scrotum: that there was a small abscess in the floor of the urethra, just in front of the stricture. There were also three abscesses in the prostate. The bladder was hypertrophied to a certain extent, and gave evidences of the existence of chronic cystitis. An abscess the size of a marble was found in the summit of the left lung; the liver and spleen were soft, but contained neither abscesses nor infarctions. There was no trouble with the kidneys. The cavities of the pleuræ contained serous effusion, with a few floating flocculi.

The specimen was of interest as showing the results of divulsion, viz.: tearing through of the mucous membrane and of the stricture tissue, and also as a case terminating with pyæmia as the apparent result of the operation. About five days after the operation the patient was recognized by two others, who had seen him in a strait-jacket, with violent *mania â potu*, three days before his admission to the hospital. This fact explained the reason why the condition of the patient was such as to invite suppuration so readily. In fact, this condition was very manifest in the behaviour of the hypodermic punctures, which degenerated into diffuse suppuration. The chill evidently did not have anything to do with the pyæmia as an initiative.

The heart was enlarged, the lungs œdematous, and the pericardium was adherent to the stomach.—*Medical Record.*

Cancer cured by Electrolysis.

Dr. Mussey read also a paper* on *Electrolysis in Cancer*, illustrated by photographs and a wax model. He had been led, by the success of Dr. Neftel, of New York, to try the electrolytic treatment upon several cases of cancer; and though he could not claim uniformly successful results, still he had become convinced that much could be done with this treatment, if the cases were judiciously selected, and the agency employed properly appreciated and carefully applied. Scirrhus seemed to yield the most readily, and encephaloid to be the most intractable. As to batteries, he had found one of Remak's, made in Berlin, give the steadiest current; but it was inferior in most respects to a Stöhrer battery made by Curt W. Meyer, of New York. Drescher's had proved less steady, and more troublesome to keep in repair]

Great patience and perseverance were required in all these cases, on the part of both operator and patient; and most of his patients had given out before he had effected what he deemed possible for them. One, however, a woman of infinite pluck and endurance, had satisfied him that a malignant tumor could be cured by electrolysis; and others now under treatment confirmed this view.

The woman referred to was thirty-six years old, in good

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* Before the American Medical Association.

general health. She had been suffering from a painful tumor on the back of the hand for about a year prior to the spring of 1870, when she consulted Dr. Mussey. The tumor had continued to increase, under various modes of treatment, and amputation of the hand had been proposed. On examining the tumor Dr. Mussey found it $2\frac{1}{4}$ inches long by $1\frac{3}{4}$ wide, and elevated from $\frac{1}{4}$ to $\frac{3}{4}$ inch above the surrounding surface. The whole hand was greatly swollen. The diagnosis of encephaloid cancer was made, and its removal at once determined upon.

An incision was made over the centre of the tumor, in the line of the middle metacarpal bone. The skin was dissected up, and the extensor tendon of the middle finger sacrificed, but the other tendons were saved. On opening the sheath of the tumor it was found highly vascular, and hæmorrhage was profuse. A mass of encephaloid was removed. The middle metacarpal bone had wholly disappeared, and its adjacent metacarpals were involved, so that at least half their substance had to be scraped away. The wound was thoroughly cauterized with pure carbolic acid, and packed with lint. It was dressed afterwards with a carbolic acid solution, ten grains to the ounce of water.

Soon encephaloid granulations began to spring up luxuriantly, and the Doctor decided to try electrolysis. He at first used three needles attached to the negative pole of the battery, the positive electrode being placed in the palm of the hand. The current of six cups was passed for five minutes, that of eight cups for two minutes, and that of ten cups for three minutes. The next day the growth was larger than before, and he applied a flat rectangular electrode $1\frac{1}{2}$ by $\frac{1}{2}$ inch, covered with a single thickness of moist lint, upon the mass, and passed the current from—cups for fifteen minutes. This was kept up daily for four days, when the electrode was brightened and used naked, and the application continued daily for a week longer. Then a circular electrode about $\frac{1}{2}$ inch in diameter was employed, being pressed into the mass. Each time the tumor would shrink a little, but the next day it would be as large as ever, and after a week it had actually gained in size. The woman was willing to endure anything to save her hand, and the Doctor, in no wise discouraged, now took a smaller electrode, $\frac{3}{4}$ by $\frac{7}{16}$ inch, and thrust and bored it into the mass as deeply as he could, and then applied the whole power of sixteen cups for twenty-five minutes. This produced a great frothing from the evolution of gas, and the tumor began to shrink more after each operation, so that at the end of a week it was perceptibly diminished. In a week more of these daily applications the diminution was so great that he gave a favorable prognosis. From the first of May until July the applications were made every other day. At the latter date the wound was cicatrized, and the patient was required to call only twice a week. In August she was using the hand to sew, and wearing the thim

ble upon the middle finger. This fatigued the arm a good deal, but the fatigue was relieved by electricity. She continued to call once or twice a week until Nov. 15th, 1870, when the treatment was stopped. It was now twenty-two months since the cicatrization of the wound, and sixteen months since the last application of treatment, and the disease showed no sign of return.—*Ib.*

Tænia Solium and Tænia Lata in a Child three years old.

A case of this character, occurring in a boy three years and four months old, is reported by Dr. Joseph Ganghofer, in the *Kansas City Medical Journal.* The child had excessive craving for carrots, of which he would daily consume large quantities, both cooked and raw. After persisting in this unnatural appetite for six weeks, a *tænia solium* of about eleven feet in length was passed. The morbid appetite of the patient still continued, and, on account of the largely distended abdomen, the carrot treatment was advised. Within two weeks another worm was passed; this time a *tænia lata* ten feet long, which came away entire, inclusive of the head.

Dr. Ganghofer remarks that the use of carrots as a domestic anthelmintic in cases of ascarides and lumbrici is no novelty, but their efficacy in dislodging the different varieties of tape-worm has never before been established. It would appear that the large amount of saccharine matter contained in the vegetable must have sickened the parasite, and thus have caused its detachment from the walls of the intestine.—*Ib.*

On the growth of the Nails as a means of prognosis in Cerebral paralysis.

Dr. S. W. Mitchel (*American Journal of Medical Sciences*) states that he has observed in several cases of paralysis that the nails of the limbs of the affected side, on the occurrence of the accident, ceased to grow. This was proved by staining the roots of the nails with nitric acid. He was able to predict, in seeing after a time a white line of nail making its appearance, and before there were any other signs of improvement, that power was about to return to the limb, and that voluntary motion would shortly be restored.—*Ib.*

MEDICAL INTELLIGENCE.

(General Orders by the Governor in Council.)

Furlough—Warrant Officers.

23rd August 1872.

No. 888 of 1872.—It having been announced in G. G. O. No. 207* of 1869, under the authority of the Right Hon'ble the Secretary of State, that the furlough rules of 1868 shall apply to all warrant officers holding veteran or honorary commissions, that Conductors and Sub-Conductors shall be entitled to furlough on sick certificate, and that corresponding furlough shall be granted to warrant officers in the Subordinate Medical Department, and to those holding the honorary rank of Assistant Surgeon, the Right Honorable the Governor-General in Council is further pleased, under the authority of Her Majesty's Secretary of State for India, to announce that those classes will be allowed to reckon the following periods of leave, whether taken in India or Europe, as service for pension :—

15	months in	12	years'	departmental	service.
20	"	14	"	"	
24	"	16	"	"	

Warrant officers holding that rank on this date may, should they elect to do so, continue on the rule hitherto in force, and reckon all leave in India as service and all leave out of India as against service. This option will not be given to men attaining warrant rank after this date.

Applications from warrant officers for leave to Europe must be accompanied by a duly certified statement of the applicant's service, and of the condition in respect to service for pension under which the furlough is taken.

The provisions of this Order will have effect from this date.

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* Madras G. O. G , No. 77, dated 2nd March 1869.

(General Orders by the Commander-in-Chief.)

Sanitary Returns.

No. 119.

28th August 1872.

G. O. C. C. of 31st July 1865, page 342, directing the submission of No. 1, Sanitary Reports of Regiments, Batteries, &c., (War Office Form 517 of 1864) to this office, is hereby cancelled, and Commanding officers of regiments and Batteries are requested, on receipt of the above returns in duplicate to forward *both* copies direct to the statistical branch of the office of the Inspector-General of Hospitals, British Forces, at the Presidency, and not to the Adjutant-General as heretofore.

Musketry—Medical Department.

No. 99.

4th September 1872.

Attention is invited to Horse Guards, General Order, No. 15, dated 1st February 1872, regarding the attendance of medical officers at target practice.

It is, however, to be distinctly understood, that if a medical officer is not actually on the ground he must be at hand and available at the shortest notice.

Whenever the troops are encamped for rifle practice on account of the distance of the range from barracks, a medical officer is to remain in camp, while the practice is going on.

Gymnastics—Medical Department—Sanitary.

No. 106.

(*a*) G. O. 58 of 1867.
(*b*) „ 368 of 1868.
(*c*) „ 303 of 1869.

Horse Guards' G. O. No. 26 *Gymnasia*, dated the 1st March 1872, is re-published for general information and guidance :—

I. Medical officers in charge of regiments that have been quartered long enough at any station possessing a gymnasium, to enable the men to undergo a training, will specially report on the effects, if noticeable, of such training on the muscular development and health of the men on their leaving the station, and as to the general influence of gymnastics in promoting a vigorous constitution. In fur-

therance of this duty they will frequently visit the gymnasium, and witness the measurements of the recruits on entering the course, and also the measurements on its termination.

II. The principal medical officer will refer to the subject in his annual sanitary reports, giving the substance of the information furnished to him by regimental medical officers, with any remarks thereon that he may deem necessary, concerning the utility of Gymnasia.

(a) Madras G. O. C. C. 17th April 1867, p 93.
(b) " " 15th January 1869, p. 10.
(c) " " 4th April 1870, p. 94.

Passage—Pay and Allowances.

No. 114.

The following letter from the Secretary to the Government of India, Military Department, No. 827, dated the 13th April 1872, is published for general information and guidance :—

In reply to your letter No. 45C, "*Pay*," dated 8th ultimo, submitting the recommendation of the Right Honorable the Commander-in-Chief, that the provisions of the letter from this department, No. 172, dated 8th June 1871, be made applicable to all officers proceeding home on duty when detained at Bombay, on condition that the State is not put to the charge of a double payment, I am directed to acquaint you, for His Lordship's information, that the Right Honorable the Governor-General in Council has decided that an officer ordered to proceed to England on duty, under circumstances which, by the regulations, preclude his receiving Indian allowances after the date of receipt of the order, should be provided with passage on the first troop vessel leaving Bombay after that date that he can arrive in time to proceed by: and, for the period that may intervene between that date and the day on which he must leave his station to catch the said troop vessel, he may be retained for duty with his regiment or battery, receiving, whilst so employed, the Indian allowances which he was drawing when the order reached him.

2. But the Indian allowances in question cannot be admitted unless the officer proceeds, as above, by the first troop vessel; nor under circumstances which will involve a double charge upon the State.

Transport—Medical Dept. Sub-Women and Children.

14*th September* 1872.

The Government of India have ruled, that the indulgence of free passage by river steamer sanctioned* under certain conditions to the families of Hospital Assistants may be held to apply to the cases of Hospital Assistants proceeding to join appointments at foreign stations, such as Aden and the Persian Gulf, save in cases where they may be going abroad to join permanent appointments.

Military Department, No. 374, dated 7th May 1872, to the Quarter-master-General.

* G. O. 51 of 1872.

This order is to be entered as para. 244*b* and G. O.† 51, dated 15th March 1872, as para. 244*a* of Transport Regulations, Part I.

Railways—Passages.

No. 125.

The following notification, by the Government of India in the Financial Department, is re-published for general information:—

No. 3507, *dated* 17*th May* 1872.—The Governor-General in Council is pleased to prescribe, in supersession of all former rules on the subject, the following rules specifying the class of accommodation to be granted to the several grades of Government servants when travelling free, on duty by rail:—

I. All officers ...... ing salaries of not less than Rupees 350 a month shall receive 1st class accommodation.

II. All officers drawing salaries of less than Rs. 350 a month, and not less than Rs. 25 a month shall receive 2nd class accommodation.

III. All officers and servants drawing less than Rs. 25 a month, and not less than Rs. 15 a month shall receive intermediate class accommodation when available, otherwise 3rd class accommodation. All others shall receive 3rd class accommodation.

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† Madras G. O. C. C. 2nd July 1872, p. 208.

The necessary alteration to be made in para. 15, Transport Regulations, Part II., and the above order to be entered as para. 15 A.

Dress.

No. 132.

The white tunic laid down in G. O. *107 of 1872, will be worn by all unemployed Infantry officers of the Staff Corps and Indian Army.

Dress.

No. 134.

The Commander-in-Chief desires it to be distinctly understood, that the white uniform worn by officers at mess during the hot-weather months is simply a mess dress, and must not be worn at entertainments elsewhere, except under the special sanction of the officer commanding the station.

This order applies to all branches of the service.

Leave—Service, Officers—Passage.

In continuation of G. O.† 57 of 1872, the following letter from the Government of India, Military Department, to the Government of Bombay, No. 59, dated the 27th May 1872, is published for general information :—

" In reply to your letter, No. 2145, dated the 8th May 1872, enquiring how the time passed by an officer detained at the presidency for passage in a troop-ship, beyond the usual preparatory leave, is to count towards leave and service for pension, I am directed to state, for the information of the Government of Bombay, the Right Honorable the Governor-General in Council is pleased to rule that in cases where the detention is really unavoidable, the time should not count against an officer, but be considered to come within the preparatory leave."

* Madras G. O. C. C. 3rd June 1872, page 169.

† Madras G. O. C. C. 2nd July 1872.

Leave.

No. 172.

A. G. Cir. No. 99 of 1867, para. 8.
G. G O. No. 34 of 1869, para. 4, clause II.

With reference to G. O.* 304 of 1871, the Commander-in-Chief is pleased to notify that every officer who proceeds to Bombay, with the view of obtaining furlough on medical certificate, must arrive at Bombay three clear days before the assembly of the Medical Board, (which meets every Monday and Thursday). In order that the terms on which he is entitled to leave may be known, he must be provided with a statement of his leave and service, prepared by himself, in accordance with the orders marginally noted.

*Madras, G. O. G. 7th November 1871.

List of Children.

On account of whom Payments have been notified by the receipt of Paymaster's Statements, &c., from 31st *August up to this date for securing the following rates of pension.*

Names of Subscribers.	Children's date of birth.	Sex.	Rates of Pension secured.	To what period.	Payments how made.
J. T. Williams ...	5th August 1872..	Male ...	Half ...	To 18 years ...	By Donation and Subscription.
J. Henderson ...	9th October 1872..	Female...	*1-3rd ...	To 21 years ...	By Donation.
Do. ...	Do. ...	Do. ...	Full ...	From 21 to D. or M., &c.	

N. B.—The rates of pension marked thus* are additional to those previously secured.

MEDICAL FUND OFFICE,
FORT ST. GEORGE,
30*th September* 1872.

CORRESPONDENCE.

Water Analysis.

To the Editor of the Madras Medical Journal.

Sir,—I trust you will spare me a small space in the Journal that I may very briefly reply to Mr. Nicholson's rejoinder in your last number, concluding so far as I am concerned, this discussion.

Under the first heading of the rejoinder Mr. Nicholson still insists upon holding me solely responsible for "the scheme," and to this I have only to reply that my coadjutors did take a large part in the compilation, and for example I may state, without I think breaking confidence, that the very process for alkalies of which Mr. Nicholson has had so much to say was inserted by one of them in the place of the barium method which stood in the original manuscript.

Under his second heading, Mr. Nicholson has modified the statement, by the accuracy or otherwise of which I elected to stand or fall. That statement was, to use his own words, "The author of the scheme here distinctly commits himself to the statement that ignition of sodium sulphate with ammonium chloride changes the former into sodium chloride. Little or much sulphuric acid can make no difference in this reaction. *This statement is without the slightest foundation in fact,* (the italics are Mr. Nicholson's). Sodium sulphate ignited even with a considerable excess of ammonium chloride shows no signs of change, the weight remains unaltered, and the solution of the residue gives no indication of chloride being present." That Mr. Nicholson was wrong in making this statement he now acknowledges, but to that statement, and its inaccuracy, I hold him, and, therefore, I do not renounce the scheme. As to Mr. Nicholson's experiments they are not in accord with results which I obtain, but I reiterate (see my letter in the August number of the Journal) that I have not advised that in practice chloride of ammonium equal *only* to twice the weight of the sulphate of sodium should be employed. However, as to whether this conversion should be made use of in analysis, I am willing that, as against Mr. Nicholson, the scheme should be in accordance with Fresenius and Sutton. Moreover, as I stated in my reply, if the scheme were in error on this point, its usefulness for the analysis of potable waters would be but little impaired, for only in very exceptional cases is it needful, in making such examinations, to determine the alkalies.

Mr. Nicholson concludes what he has to say under his third head with a powerful tirade against my incompetency and blind faith in authorities. Now, as to authorities, I have referred to them so largely because in his original paper Mr. Nicholson seemed to charge me with ignorance of them, and because many of our readers must be unable to verify for themselves the accuracy or otherwise of our counter statements, and will, therefore, be glad to have the evidence of "the authorities" on the points at issue. As regards Mr. Nicholson's strong language, I regret he should have so mistaken the exigencies of the case as to believe that they compel him to the tone of criticism which he has adopted towards a brother Medical Officer, engaged like himself in serving Government to the best of his ability, and who was called on, in the course of his duty, to undertake a work which had to be carried on at great expense of time and labour, and under the pressure of other duties which were in themselves quite sufficient to occupy the time of any one man.

With reference to the case of the wells in Fort William, I think I can put it before Mr. Nicholson in such a way that he will acknowledge that I had fair grounds for my condemnation of them. And in the first place I can assure him that I have not been unmindful of marine impregnation as a source of impurity in the Fort waters—this he will see if he will refer to my reports on the tanks on the glacis, in which I have distinctly recognised the liability to such impregnation. But take the case of the Chowringhee Gate well. It is situated in a small ravelin, two sides of which are occupied by the huts of the married sepoys; in the centre of the ravelin is the sepoys' bazaar, and around the well full half the washing of the native regiment in the Fort was carried on; and I can say from personal observation that the vicinity of the well, notwithstanding the platform and drain, was always in a soppy state. Well then I had learnt from experience that whenever sepoys have used a well in this way for any length of time it almost as a matter of course becomes impregnated with saline matters. Further when I come to compare the waters of the wells in the Fort, I find in this one 20·5 grains of chloride of sodium to the gallon, while the Treasury Gate water contains 12·5 grains of chloride of sodium to the gallon, and that of the carefully preserved Sudder Bazaar well 5 grains only to the gallon. All these considerations, together with what I witnessed of the way

in which the wells were used, was quite sufficient to lead me to condemn them, especially since an abundance of comparatively safe water was readily obtainable, and because it has been a principle on which I have uniformly acted, that a water source should be rejected if it is exposed to any possible source of contamination. Acting as I have done upon this principle, I am ready to confess that I may have erred in condemning some wells, but the errors have been on the side of safety, and I have always avowed the principle which I have taken as my guide.

I am, &c.,
F. N. MACNAMARA.

CALCUTTA,
19*th September* 1872.

To the Editor of the Madras Medical Journal.

SIR,—I hope you will kindly allow this letter to appear as a postscript, or note to my letter of the 19th, for in that letter, I, by an oversight, omitted to notice Mr. Nicholson's statements in the second paragraph of page 206 of your Journal. That paragraph is so full of unfounded and disparaging assertions regarding me that I cannot pass it by. I quote it in full as well as a sentence from the top of the same page.

"But Dr. Macnamara with two years' experience of Indian water analysis, still laboured under the idea that nitric acid is always a product of animal pollution and that an excess of chloride is owing to the same cause. He finds a small amount of nitric acid and an excess of chloride, and at once jumps to the conclusion that the wells are contaminated by human and kitchen refuse."

"The fact is that Dr. Macnamara then as now took his chemistry and his hygiene out of an English book. He had seen it stated that in England nitrates when existing in any quantity, are generally the oxidized products of sewage contamination; he did not reflect that, possibly in India, the great producing country of nitre, the occurrence of nitrates in water may be quite normal. He did not think of ascertaining by experiment whether such might be the fact, but he bows at once to "the authorities" and condemns every Indian water that happens to have nitric acid in it. Speaking of the excellent spring water of Murree (page 32 of same report) he says, "the springs being fed by the surface drainage which sinks into the subsoil of the hill, of course a considerable amount of sewage matter mixes with the water, and becoming oxidized, is represented by the nitric acid which is present in it." These waters, of most excellent quality, happen to contain a small amount of nitric acid, estimated at one grain per gallon; accordingly they are declared to be polluted by oxidized sewage.

Such mistakes might be excused in a beginner just out from England, imbued with the 'previous sewage contamination' theory; but to find

them perpetrated by the superintendent of two years' systematic analysis is too bad. Dr. Macnamara might have been expected to learn something by experience during his campaign against the potable waters of Bengal: he appears to have learnt nothing. With a blind reverence for "the authorities" he made not the slightest use of the splendid opportunities before him; with unquestioning faith in home theoretical views, facts seem not to have existed for him; with an apparent incapacity for appreciating what is evidence, he condemned good waters wholesale"

I must accuse Mr. Nicholson of deliberate misrepresentation in writing as he has thus of me not only in the sentence I have quoted, but in others of like effect in the same paper.

I will quote from the report, containing that on the Murree waters on which Mr. Nicholson comments, proving that he has that report, and has read it.

Peshawur.—Mackeson's well—"the water of Mackeson's well must be pronounced good and wholesome." This water as may be seen on referring to the table of analyses contains nitric acid.

Attock.—Referring to the water of well No. 5, "there is not, however, anything in the composition of the water of the well, as shown by its analysis to render it unwholesome." This water, see Table of Analyses, contains nitric acid.

Ferozepore.—Referring to the Hospital well, "the water contains a large amount of nitrates, salts, which are not present in the waters of the neighbouring wells, while it contains double the quantity of readily oxidizable organic matter, and of chlorides that they do. This being the case, I strongly urge the recommendation made in my former report for the provision of another well for the supply of water to the sick in Hospital." It is evident that I condemn this water on far other grounds than that it simply contained nitrates.

Ajmere.—"The water in use at the station is generally considered of fair quality." All the wells reported on contain nitric acid. (See Table of Analyses.)

Jubbulpore.—"The water of No. 118 appears to have got a bad name, yet the water, as shown by its analysis, is very good." The water, as shown by the Table of Analysis, contains nitric acid. The water of the other wells supplying the European Troops is also good. The water of almost all these wells, see Table of Analyses, contains nitric acid. "Nitric acid is present in almost all the well waters of the station, and it is also present in the soil; there is apparently

no reason to attribute its presence in the waters to sewage contamination"

Saugor.—"Analyses show that the water of most of the wells in use by the European Troops is fairly good, the best is *that of a well, unnumbered,* which is near No 11 barracks The well is a new one, and its water is decidedly more pure than that of the neighbouring wells, it however *contains a large quantity of nitrates, but as the amount of* organic matter is not large, and but a small proportion of chlorides, I have no doubt that the nitrates result from the oxidation of organic matter which may have been deposited in the soil in past times"

Nowgong.—"It appears from Dr Thomson's analyses that the *unpolluted* water of the station contains 15 *grains or* less to the gallon of dissolved constituents, including about $2\frac{1}{2}$ grains of common and from a half to two grains of nitric acid, the nitric acid is present not only in the vicinity of the barracks, but in the uninhabited part of the cantonments" Here I speak of *waters containing much nitric* acid as being *unpolluted*

Nagode.—"The supply is abundant, and where the wells are taken care of is fairly good" The water of all the wells contains nitric acid (See Table of Analyses.)

Seetapore.—"The nitric acid is present in large quantity in the water of some of the wells, and may be to a certain extent derived from sewage pollution, but I suspect it is present in the soil over the district in which Seetapore stands, and I do not, therefore, look upon its presence in any of the waters as *necessarily indicating artificial contamination*"

In the face of such passages as the above, (and if Mr. Nicholson has it, in the face of others of similar import in my fifth report) Mr Nicholson has the audacity, for I cannot use any milder word, to pen and publish the sentences which I have quoted in the beginning of this letter—and this is the brother Medical Officer, and Professional Chemist, who, relying on such mis-statements as the above, has been doing his best in effect, I hope not wittingly, to injure *my professional reputation in the journals here* and

at home. I will say no more, I leave Mr. Nicholson to his own reflections, and to the judgment of your readers.

I am, &c,

F. N. MACNAMARA.

CALCUTTA,
21*st September* 1872.

A MEDICAL FUND.

To the Editor of the Madras Medical Journal.

SIR,—I shall feel obliged by your kindly giving insertion to the following.

I see that at the recent Examinations many gentlemen have passed for appointments as Assistant Surgeons in the Indian Medical Service. Some have by this time gone through the course at the Army Medical School and are already under orders for their respective Presidencies, and others are about proceeding to Netley ; all of whom it is to be presumed will in time come to augment the numbers in the Junior Grades of the service.

The attention of all those, if this should haply reach them, as well as that of the Assistant Surgeons who joined the Service since 1860, I earnestly request to the fact that no such thing as a Fund Military or Medical now exists, in which we are allowed to participate, whereby one could hope to make a moderate provision for widow or children in the event of death. The Madras Fund has for its fortunate members a branch called the Annuity branch, which provides an annuity on retirement of either £200 or £400 a year, according to the length of service &c. of the applicant. Of course there is no such thing now for us and when one speaks of his exclusion from these privileges, however willing he may be to pay for them, as a hardship and a grievance, he is sometimes met by the statement that the Junior members are better off now-a-days than they were formerly both as regards pay and promotion. This I deny, as although we get promotion after a certain number of years, and the pay is enhanced so far as the actual number of rupees goes, still I affirm that in the absence of a Fund, for which no concession that has been made to us compen-

sates, as well as some other advantages possessed in former days, we are not better off.

The increased rate of pay does not more than counterbalance the depreciation in the value of money, and the increased cost of living in India makes it simply impossible for one with a family to effect a saving of any consequence, to enable him either to make a proper provision for widow or children, or supplement his wretched pension and admit of his retiring in his old age, when he feels that he has little more Indian work in him; and yet for these reasons hold on he must. Life Insurance as it is charged for in India makes it impossible for one with the moderate pay of an Assistant Surgeon, particularly if he has a family, to insure his life for an amount that would give his widow anything that she could, with a family, live comfortably upon and educate her children.

What we want then and that urgently, is a Fund, or something of a similar character under the support and management of Government, which would by moderate monthly deductions from one's pay as was done in the case of the old Fund give one the means of placing his family beyond the reach of want in case of his death. Government need make no sacrifice nor incur any expense, all I would ask is the establishment of the institution whatever may be its name and granting the necessary guarantee and supervision. This is a matter which vitally concerns a great many who are already in the service, and all those who are about entering it. Why the former have hitherto made no move in the matter I cannot understand, unless it may be that they trust to some lucky piece of legislation in the future to supply their wants, or to Governments seeing the necessity of it and doing for them that which the old H. E. I. C. did for its Officers and which unhappily was undone during the reign of Sir Charles Wood at the India Office. Why it was done away with I never could learn, unless it was to facilitate the amalgamation of the two services which was then talked about, but which came to nothing as every body knows.

If Government considered the rate of interest granted too high it might have abated its privileges in the case of the new admissions, and with the lessened advantages all would have been glad to join, on the principle that half a loaf is better than no bread. I think then it behoves all those who are concerned to either individually or collec-

tively do what in them lies towards the attainment of such a desirable object as a Fund. The heads of the Indian Medical Service in the three Presidencies are quite aware of our wants and would be, I hope, equally willing to help us, but I certainly think that the commencing move ought to be made by us Juniors.

With reference to the question of promotion it is not a cheerful one to dwell upon. It is true that we get promotion to the ranks of Surgeon and Surgeon-Major after a certain number of years' service, but beyond the latter grade I think I am not far wrong in saying, that 95 per cent of us will never go; what with the reduction in numbers in the administrative grades, the age-disqualification, and the number of casualties that are likely to occur before the completion of 28 or 30 years' service, before which promotion to the Inspectorial ranks is not to be expected.

I venture to say that there are many retired Indian Medical Officers who are now living at home on a fair competence who would never have been able to retire were it not for those Funds from which unhappily so many of us are now excluded.

I am, Sir,

Your very obedient servant,

JUNIOR.

TO CORRESPONDENTS.

Assistant Surgeon L. C. NANNEY, H. M.'s 3rd Regt. P L. I.—*In our next.*

P. S. MOOTOOSWAMY, Native Surgeon—Manargudi—*In our next.*

Assistant Surgeon F. M. RICKARD—H. M.'s 25th Regt. M. N. I.—*Received with thanks.*

BOOKS, &c., RECEIVED.

Doctor, *August* 1*st.*
Medical Press and Circular; *August 7th,* 14*th,* 21*st,* 28*th.*
Journal des Connaissances Médicales, *August* 15*th,* 30*th.*
Jamaica Church Chronicle, *June* 17*th.*
Medical Record, *July* 1*st,* 15*th, August* 1*st.*
Report of the Sanitary Commissioner for Madras for the year 1871.

The Secretaries, ROYAL MEDICAL BENEVOLENT FUND SOCIETY OF IRELAND, *acknowledge with many thanks receipt of the following Donation and Subscriptions.*

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